Amateur Radio

December 1998

Volume 66 No 12

Journal of the Wireless Institute of Australia

IN THIS ISSUE:

- Easy CW
- Some Practical Tips on Timber Radio Masts
- Work 'em First, Worry Later
- A Sensitive HF Indicating Wavemeter

Plus

lots of amateur radio news, information, articles, and special interest columns.

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Amateur Radio

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Cover Iain Morrison VK4IGM with Scouts Rebecca Pike, 12, and Daniel Adams, 14, operating in the 41st Jamboree-on-the-Air from the Bluewater Scouts Site 30 km north from Townsville (see *Over to You* letter on page 50).

[Photo by Scott Radford-Chisholm - reproduced with permission from the Townsville Bulletin.]

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CONTRIBUTIONS TO *AMATEUR RADIO*
Amateur Radio is a forum for WIA members' amateur radio technical experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for possible publication. Articles on computer disk or via e-mail are especially welcome. The WIA cannot assume responsibility for loss or damage to any material. A pamphlet, "*How to Write for Amateur Radio*", is available from the WIA Federal Office on receipt of a stamped, self addressed envelope.

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DISCLAIMER
The opinions expressed in this publication do not necessarily reflect the official view of the WIA, and the WIA cannot be held responsible for incorrect information published.

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Representing the Australian Amateur RadioService - Member of the International Amateur Radio Union

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■ Viewpoint

Editor's Comment

End of An Era

This issue of *Amateur Radio* is the last to be produced by Bill Roper VK3BR. The WIA executive has decided to accept a lower tender for production of the January 1999 issue and thereafter.

I would like to make known to you all, at this stage, the part that Bill Roper has played in the very long time he has been associated with this magazine. He joined the Publications Committee in 1963. In 1972 the WIA Divisions agreed to set up a Federal Body to do for the Divisions as a whole all those things which few could fairly be expected to do individually. Two of these things were, and still are, to represent the interests of amateur radio to the Federal Government, and to publish the magazine *Amateur Radio* which, until then, had been published by the Victorian Division, on behalf of all Divisions.

The first Editor of the magazine at this time (1972) was Bill Roper, then VK3ARZ. Bill remained Editor until 1976, when he retired from the position due to pressure of work in his full-time job. One of his first actions in 1972 was to appoint me (VK3ABP) to the newly created position of Technical Editor, from which I moved to Editor in 1984. Between 1976 and 1984 the Editors were Bruce Bathols VK3UV (1977 to March 1983) and Gil Sones VK3AUI (March 1983 to May 1984).

Bill Roper came back into full-time service to the WIA in May 1988 and was formally appointed as Federal Office General Manager and Secretary in January 1989. This then rendered him effectively the publisher of *Amateur Radio* and he was so designated in June 1992.

He resigned from the managerial position in August 1993 after completing over five years in the job. During this time he extensively modernised and updated the office management systems and, because of the increased efficiency, was able to improve greatly the financial position of the WIA.

Following this, from August 1993 to December 1996 Bill was employed by and in the Federal Office in the capacity of Production Editor. In 1996 Council moved to outsource magazine production fully. Bill decided to become a contractor, so he set up vk3br Communications Pty Ltd (more recently W Roper and Associates) in December 1996.

With the May 1998 issue he extended his capability still further to take on the computer typesetting of *Amateur Radio*. He had been responsible for computer-aided drafting of drawings since August 1995. Each of these changes brought further efficiencies and economies in producing the magazine, but our steadily falling membership reduced our subscription income still more.

Without Bill Roper I think the WIA will be poorer, even though, due to potential conflict of interest, he has not been a member since 1989.

We wish him good luck in his future activities.

May we all enjoy a Merry Christmas.

Bill Rice VK3ABP
Editor **ar**

WIA Comment

From the President

This month the WIA's Liaison Committee will be meeting with the ACA in Canberra to discuss and, hopefully, resolve a number of important strategic matters.

Following my request to Federal Council I have been given an up-date on those issues which appear to be of maximum concern to you, the Australian Radio Amateur. It is a wide ranging list of matters covering every aspect of our hobby.

The atmosphere in which the WIA and the ACA will be discussing these matters appears to be very constructive with both sides keen to make significant progress. It is proposed to maintain the momentum now being established by scheduling meetings between the WIA and the ACA at predetermined dates each year. In this way, both parties will be able to prepare for the discussions and thereby make the meetings more productive. I will bring you a progress report early in the New Year.

On the international scene, the WIA is representing the Australian Amateur via its membership of the IARU. The next two years are very important with a number of issues on the agenda which relate to proposed review of Amateur Radio operations by the ITU. Some of these could result in far-reaching changes to our hobby. Without the voice provided by the WIA we would be in danger of being left behind.

As we come to the end of another year, I would like to thank, on behalf of the Federal Council and the Federal Directors, all those many hard working volunteers who make the WIA so successful. To the co-ordinators who operate our specialist areas in such a dedicated manner, and who often give up much of the free time for your benefit, we are especially grateful.

Also, we must not forget our regular contributors to this Journal and all those others who make *Amateur Radio* such an excellent publication. Thank you for a job well done!

Finally, to all our readers, I hope you can enjoy a break over the Christmas and New Year period and find time, and good conditions on the bands of your choice, for some traditional Amateur Radio operating. Thank you for your support of the WIA and I look forward with you to making our hobby even better in 1999.

A Happy Christmas and a Healthy New Year to you all.

Peter Naish VK2BPN
WIA Federal President **ar**

News

WIA News

Prepared, researched and compiled by
David Thompson VK2NH
Federal Public Relations Co-ordinator

New Production House for *Amateur Radio*

Peter Naish VK2BPN, WIA Federal President, has announced that *Amateur Radio* will be produced in 1999 by Newsletters Unlimited of Melbourne. This decision followed advertising, an intensive analysis of the tenders received, and discussions with a short list of four.

Peter Naish paid tribute to the work of the outgoing contractor. vk3br Communications Pty Ltd had taken over the production of *Amateur Radio* when the decision was made to move it away from the Federal Office. Bill Roper had made a number of changes over the years and had set the standards for WIA publications.

The new arrangements will result in considerable savings to the WIA with no loss of quality or change from the currently monthly cycle. Some new features will be added to *Amateur Radio*.

Newsletters Unlimited has a distinguished track record in the production of printed materials since the proprietors Gill and John Nieman first started as owner publishers of a weekly newspaper in country Victoria and continues in producing a variety of newsletters and monthly periodicals for a number of national organisations.

Accompanying the choice of Newsletters Unlimited is the appointment of Bob Harper VK4KNH, trading as Shadetree Publishing, to assist the current Editor, Bill Rice, in the production of the magazine. Bob will be well known to Queensland members as a former member of the Council of WIAQ and Editor of QTC.

The January 1999 issue may be delayed slightly as a result of the changeover.

Contributors to *Amateur Radio* should send their material (preferably by e-mail or on floppy disc) to the Federal Office which will ensure it is passed to the Editor.

Special AX Calls Available

Federal President Peter Naish VK2BPN says he is pleased to announce that, *"the ACA has approved use of the AX prefix by all Australian amateurs on Australia Day, 1999. The period stated for use is from 0000 hours to 2400 hours local time, in each state or territory."*

David Wardlaw VK3ADW for Vice President of the IARU

The Administrative Council of the International Amateur Radio Union (IARU) met in Porlamar, Venezuela, in

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THE LAST EVENT FOR THE YEAR

If you live in Perth, or are heading that way in early December, make the following note in your diary :

Tower Icom Day (WA) Saturday 5 December

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From all at Icom we wish you a safe and happy festive season, and once again thanks for a great year.

"...73"

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October, 1998. The meeting was held immediately after the IARU Region 2 Conference.

After completion of consultation between the Council and President Rod Stafford W6ROD, of the American Radio Relay League which serves as the IARU International Secretariat, the Council received the nominations of Larry E Price W4RA for the office of IARU President and David A Wardlaw VK3ADW for the office of Vice President for five-year terms beginning 9 May 1999.

The Council then unanimously recommended that the nominations be ratified by the member-societies. Mr M Owen VK3KI announced that he declined nomination for another term.

Changes Planned for the 10 GHz Band in the UK in 1999

The Radiocommunications Agency has announced that the 10 GHz band allocation is to change from 1 February next year. The Agency points out that, while part of the band will be withdrawn, there is to be an overall increase in the allocation of spectrum to radio amateurs.

The current frequency allocation is from 10.00 to 10.15 GHz and from 10.30 to 10.50 GHz for the terrestrial service; and from 10.45 to 10.50 GHz for the amateur satellite service.

From 1 February 1999, the allocation will be from 10.00 to 10.125 GHz and from 10.225 to 10.475 GHz for the terrestrial service. The amateur satellite allocation will remain unchanged. The RA states that, given the ever increasing demands on spectrum, it will *"continue to balance the need for radio amateurs to have access to this spectrum with the demands of new and existing radio services"*.

Temporary Operating Conditions in France Relaxed

If you are travelling to France, then it is good news that visiting hams to that country, who stay less than 90 days, are no longer required to have a temporary operating permit. Also, there is no longer any charge for an extended operating permit.

[Via Newsline and Q news]

Satellite on the Blink!!

A new amateur radio satellite, SedSat-1, which was launched on 24 October was, as of early November, suffering from power problems.

Meanwhile, another amateur radio satellite, PanSat, was launched from the space shuttle a couple of weeks ago. PanSat is a store-and-forward digital microsat and is in a low inclination orbit.

[Via AMSAT-UK]

ARLB087 FCC issues Universal Licensing System rules

The FCC has issued its long-awaited Report and Order on the Universal Licensing System, which affects all USA Wireless Telecommunications Bureau licensees.

Among other things, as part of its Report and Order on the ULS, the FCC also issued amended rules to authorise visiting foreign hams to operate in the US pursuant to recent international reciprocal operating agreements. *"We conclude that all alien amateur radio reciprocal operation should be authorised by rule,"* the FCC said.

CEPT Licence Holder Privileges in US

Hams foreign to the USA, and holding a CEPT radio-amateur license from a CEPT country or an International Amateur Radio Permit issued by a participating CITEL country, may operate while visiting the US without having to apply for permission.

The European Conference of Postal and Telecommunications Administrations (CEPT) is an organisation of regulators.

Under its terms of reference, it is required to consider, in a European context, public policy and regulatory matters relating to posts and telecommunications and to foster the harmonisation of regulations.

The members of CEPT are the postal and telecommunications administrations which, at national level, are competent in these fields.

Finland was the Managing Administration of CEPT for three years until October 1998. Norway is the Managing Administration of CEPT as of 1 October 1998.

CEPT Meets to Consider Strategy

The Plenary Assembly of the European Conference of Postal and Telecommunications Administrations has met in Finland. Delegates from 31 European Countries participated in this session. The European Commission and the Universal Postal Union were also represented.

On 1 October 1995, Finland took over the management of CEPT for a period of three years. The CEPT Liaison Office in Berne was closed at the end of 1995 according to decisions made at the previous Plenary Assembly in 1995.

The Plenary Assembly discussed the role of the CEPT in the rapidly developing field of posts and telecommunications in Europe. Also some organisational and structural issues were covered.

European preparations for the Congress on the Universal Postal Union (UPU), Beijing, 1999, are under way in the European Committee for Postal Regulation (CERP). A Joint Working Group of the ECTRA and the ERC has been responsible for the European coordination at the Plenipotentiary Conferences of the International Telecommunication Union (ITU). Preparation for the ITU Plenipotentiary Conference, which will be held in Minneapolis (USA) from 12 October to 6 November 1998 are being finalised. Agreement has been reached on European common proposals to this Conference.

With a joint statement by European Commission (DG XIII) and the CEPT concerning the relations with the telecommunications and postal administrations of Central and East European countries the Plenary Assembly abolished the Group for Assistance and Advice to the countries of Central and Eastern Europe (ACECO) set up in 1992. The work of the ACECO Group continues within the scope of the TACIS and PHARE programs of the European Union.

Experimental Radio Rules Revised in the United States

The FCC has revised its Experimental Radio Service rules to encourage what it calls more experimentation and technological development. The FCC says it did the rewrite in order to eliminate unnecessary and burdensome experimental regulations and protect public safety frequencies.

The streamlined rules make it easier for applicants to obtain licenses tailored to their particular needs. They also allow schools to hold experimental licenses in the same way that individual students may do so now.

The new regulations are also designed to ensure that experimental licenses do not result in abuse of FCC processes.

And the FCC has also announced that the 1999 maximum Amateur Radio volunteer examination reimbursement fee will be $6.49. This is based on a 1.5% increase in the Consumer Price Index between September 1997 and September 1998.

[Via FCC and Amateur Radio Newsline]

Australia Makes the International News

The Radio Society of Great Britain GB2RS news broadcast has carried the story about the controversy surrounding the use of 70 cm during the time of the Year 2000 Olympic and Paralympic Games. The use of 70 cm by other interests is watched by most amateur radio people all over the world with great interest.

Antenna Safety for Hams

Andrew Funk KB7UV, the Assistant News Operations Manager for WAGA Fox-5 television in Atlanta, Georgia, has some new material at his Electronic News Gathering Safety Site on the World Wide Web.

While aimed primarily toward engineers who operate microwave remote trucks, much of the information is also applicable to ham radio antenna safety as well.

Funk says that the Website now includes material suggested by Dan Nungesser who is the Chief Engineer of WSEE Television. The ENG Safety material can be found at: *http://fox5atlanta.com/ENG/*

[Via KB7UV and Newsline]

ar

TIME TO DEFEND YOUR BANDS AND HARD-WON PRIVILEGES

420-450 MHz is wanted by Australian commercial interests

RF emission regulations threaten handhelds, mobile rigs, and suburban home stations, with bureaucratic limits

More of **7 MHz** is wanted by global broadcasters

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Amateur Radio is different for everyone. Your method of communications could be CW, SSB, RTTY, AM, AMTOR, packet, SSTV, ATV, etc. I would guess that 75% are on voice, 20% on telegraphy and the other 5% for the rest. Looking on the technical side there is equipment construction, antenna developments, microwave experiments and just two-way communications using commercial appliances. I think the last item would probably be 80% of amateurs today.

Reading CW

So you may have wondered what those guys on 7025 or 14025 kHz are talking about. You've got a computer, but the TNC won't translate Morse code as your TNC is strictly for packet. No problem. If you have just a little knowledge of the basics of electronics and can use a soldering iron, you will enjoy this project which will help you decode CW.

I searched through the magazines and handbooks for a simple tone decoder. Nothing seemed simple until VK2TT suggested using the LM567 barefoot.

A search through the junk box produced all the pieces except the 567 which cost me $2.40. The circuit is shown in Fig 1. The values shown for resistors and capacitors were determined empirically.

The values selected should give adequate coverage for your favourite audio beat note. You will not need fancy DSP filters as the decoder itself has a very narrow band width and can often beat the QRM although it does have a problem with the summer QRN storm static (it will print "Es").

Construction

My first effort was built on a 1" x 2" (25 x 50 mm) piece of vero-board. For the 5 V supply I used a 4 AA pack which actually produces 5.5 V.

The wiring took me about three hours,

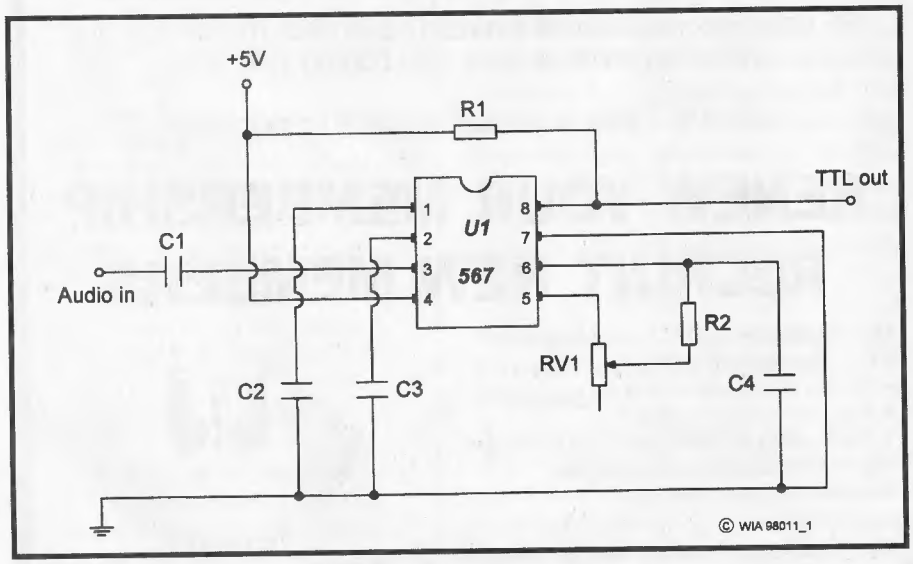

Fig 1 - Schematic of the tone decoder.

Parts list:					
C1	0.1 uF	C3	0.047 uF	R2	6.8 k
C2	1.0 uF	C4	0.1 uF	RV1	10 k
		R1	1 k	U1	LM567

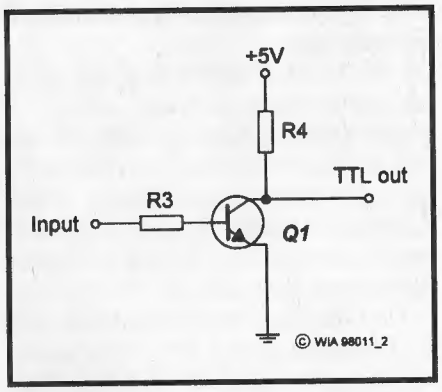

Fig 2 - Schematic of the mark-space inverter.

Parts list:	
Q1	NPN general purpose transistor
R3	10 k
R4	10 k

but you'll do it a lot faster. When everything is wired up, check it, then check it again!

Using

First connect the audio to the audio output of your receiver. Connect a small earpiece so that you can check the oscillator is working. Also, just so that you can understand what is happening, connect a volt meter across the output. Apply your favourite tone. This could be the internal sidetone from your transceiver. Watch the voltmeter. It should suddenly read 0 V, better known as "mark low". Tune RV1 until you get this "low" reading. Now key the transmitter with VOX, etc all off so that you don't cause unnecessary QRM.

So it works. The voltmeter follows your keying. Trevor VK2TT uses this to key his 1895 sounder system which then transmits whatever it hears on the land-line clacker. If you've never heard an old telegraphy clacker going then you've missed something in life.

Computer Programme

Next you need a program for the computer. I had a bunch to choose from and selected a Morse Code program by K2BJG. Unfortunately, it required a mark "high", so an additional interface was required in the form of an NPN transistor (see Fig 2).

It also required the signal on the CTS pin of the serial port. At first I had problems because the program was only written for COM 1 and COM 2. COM 1 on my machine is dedicated to the Mouse

(continued on page 36)

Antennas

Some Practical Tips on Timber Radio Masts

Drew Diamond VK3XU
45 Gatters Road
Wonga Park VIC 3115

Whilst working on my fifth radio antenna mast, in as many locations, I took my camera and snapped a few things that, it is hoped, will be of interest to many radio amateurs.

My choice of material this time was timber, although a telescopic pipe TV-style mast was also considered. However, a metal mast has at least two electrical disadvantages.

First of all, being in the near radiation field of the antenna, there may be some distortion of the intended radiation pattern.

Secondly, any poor connections in the mast or fittings may show up on the signal as intermittent noise, or worse, cause what is known as "rusty-bolt" type harmonic radiation.

Traditionally, the best and strongest timber for radio masts is said to be clear-grained Oregon (Douglas Fir). "Clear-grained" means a close grain that runs the entire length without significant running out to either side, and is completely free of knots, gum veins and cracks. Now, you may be in the timber business, and know where to get some of this rare commodity, but I suspect that all the good stuff is siphoned off (perhaps by the ladder and yacht-mast makers) well before it reaches the ordinary timber merchants.

Anyway, I spent days going around all the local suppliers in my quest for some nice "sticks". I could not find anything remotely suitable. Everything I saw had a coarse wobbly grain, knot holes galore, and splits that you could drive a truck through.

All the time I was looking, right under my nose at every yard was the very thing, "Tasmanian Oak", a trendy name for

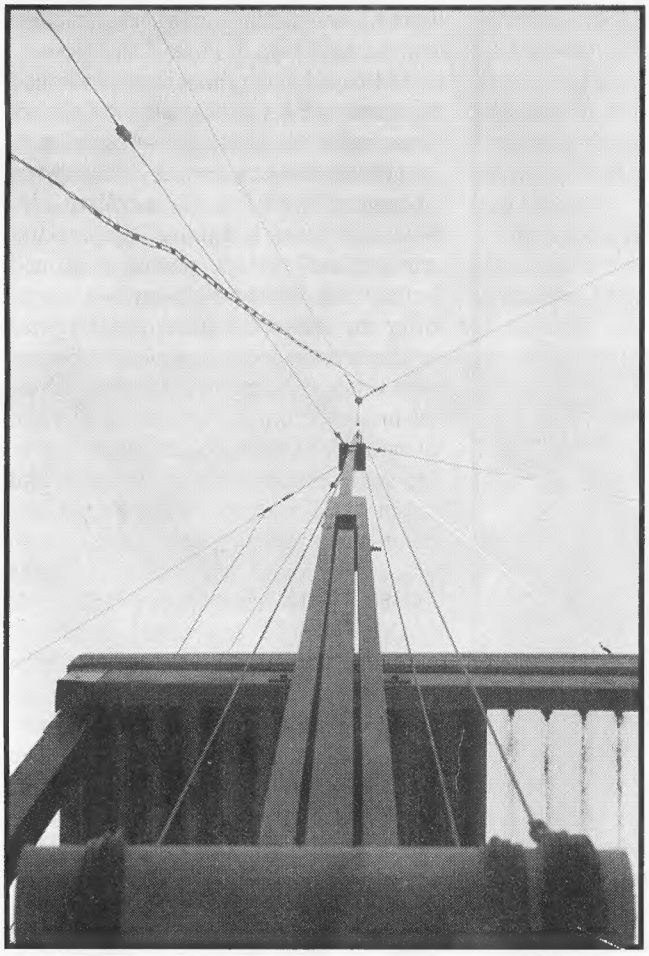

Photo 1 - The timber mast with "sky wires".

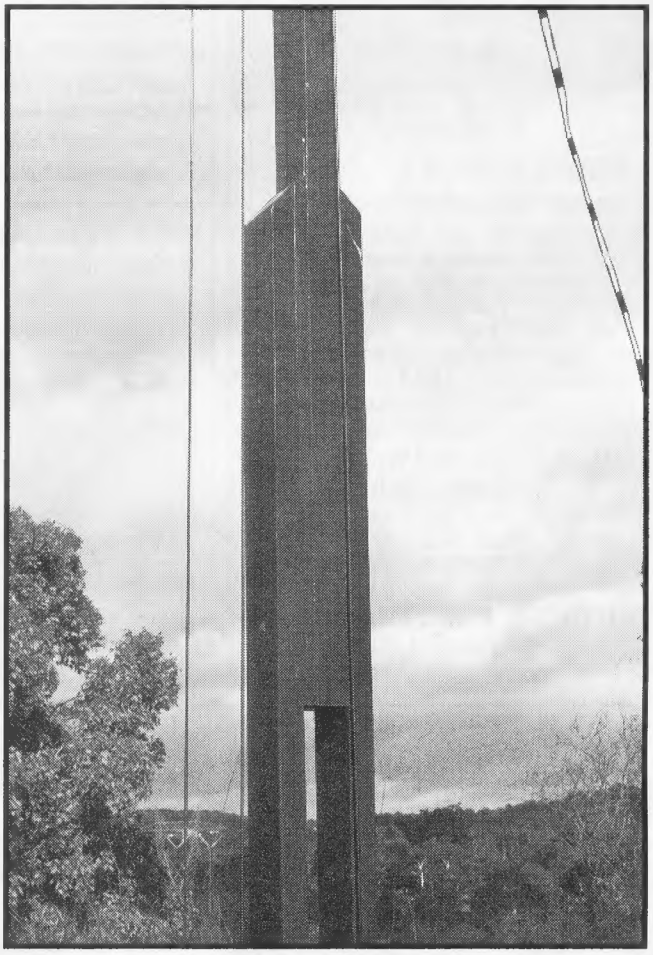

Photo 2 - The Join. Note the sloping shoulders.

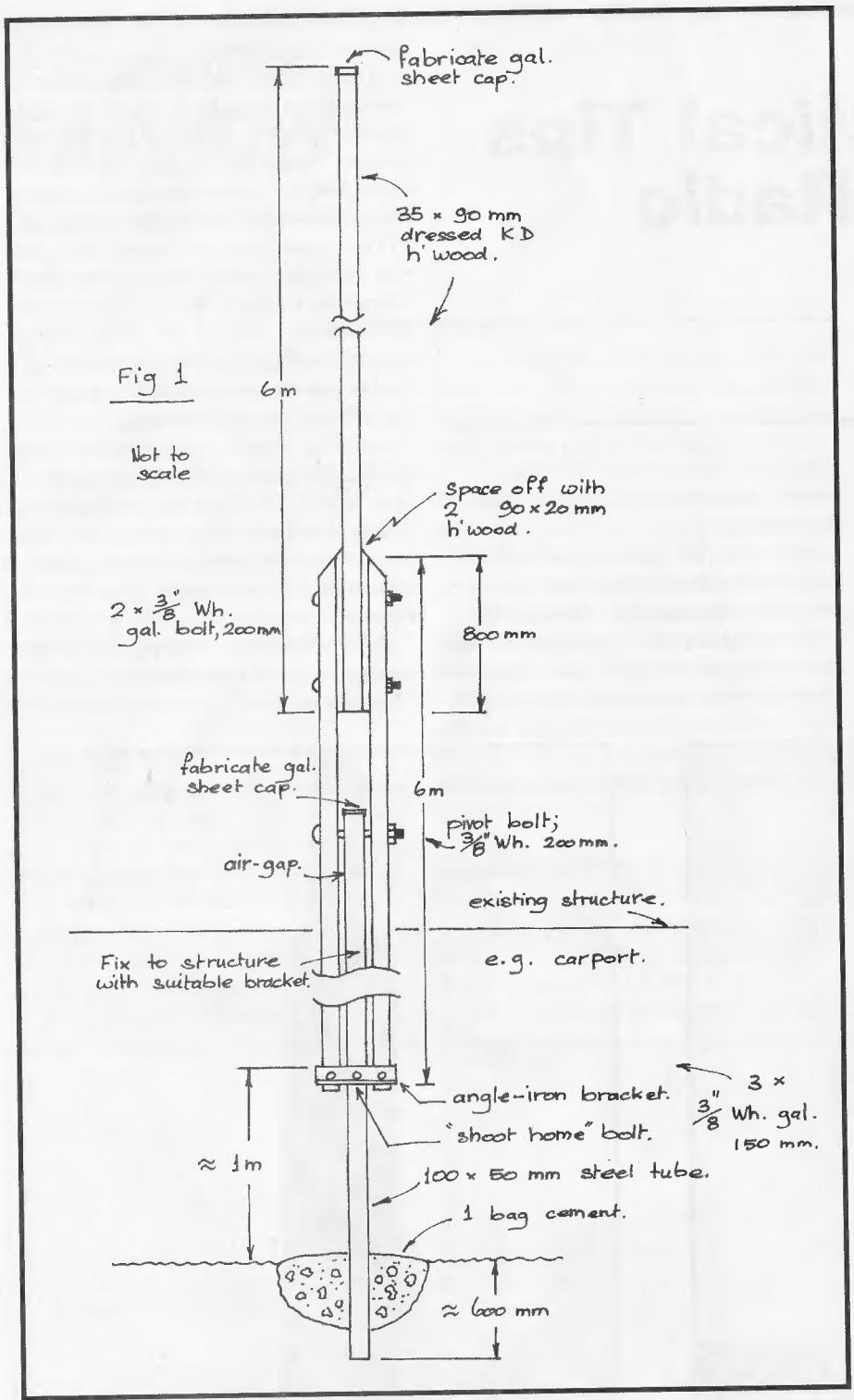

Fig 1 - An easily erected timber radio mast.

what I think is actually Mountain Ash, Messmate or Stringybark, also known as kiln-dried (KD) hardwood.

Three dressed, clear-grained 35 x 90 mm x 6 m lengths were duly selected. Although heavier than Oregon, this material has an F16 rating which, for the price, makes it one of the strongest available.

To support ordinary wire antennas, a popular and easily erected mast type is shown in my example in Fig. 1 and Photo 1 (if you do decide to build a mast, any necessary approval from your spouse, neighbour(s), landlord, local council, etc is assumed in what follows).

The lower section is comprised of two equal lengths of 35 x 90 mm hardwood, and the upper section is a single length of the same material. Overlap at the join is about 800 mm. The pivot point is dictated by the height of the supporting structure.

In my case, the carport height is 3 m, so the pivot is about 4 m above ground. The base is a 5 m length of 100 x 50 mm steel tube fitted into the ground as shown.

You and I know that water will always try to get in (or out). If not allowed to dry in a reasonable time, it will cause rot in timber, and corrosion in steel. Australian hardwood is rather more rot resistant than most soft timbers (pine for instance, which should be avoided in this application). For long life, timber and steel must be adequately protected from ingress of moisture. The weak points in timber exposed to water are the joins, horizontal surfaces, and particularly the end-grain. To obtain quick drying after rain, note the 45-degree sloping shoulders at the join in Photo 2, and the air-gap between the mast and the steel post in Photo 1.

Oil-based pink primer is still reckoned by some to be the best external timber preparation. However, in my experience, one of the new exterior acrylics, such as Solargard™ will do an excellent job. Where timber is joined, the mating surfaces and bolt holes should be painted beforehand. Whilst the paint is still wet, offer the sections together, insert your bolts, then tension the nuts until you see little beads of paint evenly squeezed from all around the join. Immediately paint over the joins using a little extra paint. Have a competent helper on hand, and make sure you have all necessary components and tools at the ready. Three or four saw horses may be used to support the job evenly during assembly.

Drill all holes for halyard eye-bolts, pivot bolt and lower bracket bolts, then give the mast two or three coats of paint. Apply plenty of paint to the eye-bolts as they are inserted, then paint around the holes so that moisture cannot enter, then tension the nuts and paint again. The same goes for any other bolts used later in the job.

The top of the mast must have a snug galvanised sheet metal cap fitted. It should be at least 20 gauge with the corners

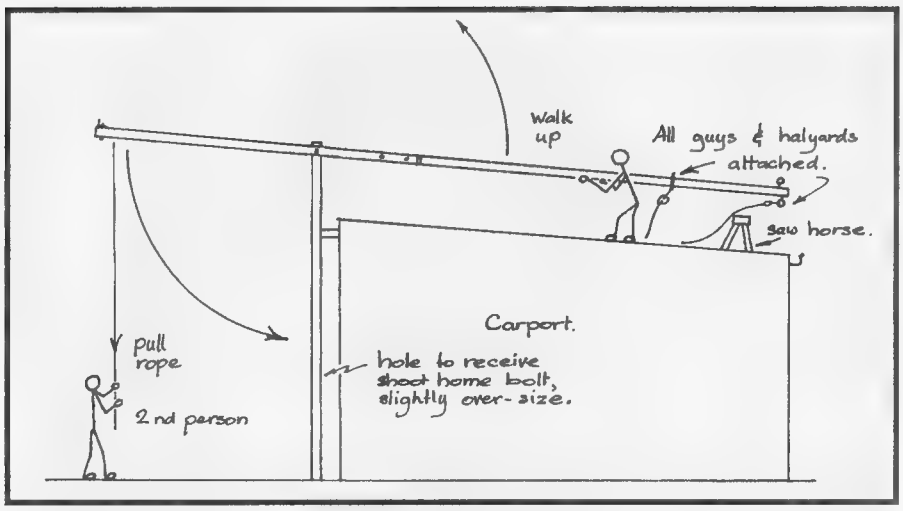

Fig 2 - A way of raising the timber radio mast.

soldered to prevent cockatoos (bitter experience) from prising it off (see Photo 3).

Also shown is a method of attaching halyard pulleys to the eye bolts. The pulleys should ideally be stainless steel marine types. A very durable halyard material is green PVC-covered steel clothes-line wire.

The wind-resisting strength of the mast derives from one set of three guys, spaced at 120 degrees, which are attached at about the 80 percentage height point. My use of stranded galvanised wire for the guys is sentimental rather than being based on modern materials. ATN Antennas can supply Kevlar rope for guying applications, which is probably a better approach if starting from scratch. However, stranded galvanised "clothes-line" wire is normally available from rural suppliers.

To avoid unwanted resonance problems, metallic guys should be broken up, about every 3 m, with glazed egg-type electric-fence insulators, also available from rural suppliers. The guying bracket depicted in Photo 4 shows one way of attaching the guys to the mast without having to drill a hole in (and thus weaken) the timber.

Two 150 mm lengths of angle-iron are clamped to the mast, sandwich fashion, with two 3/8th inch Whitworth 50 mm

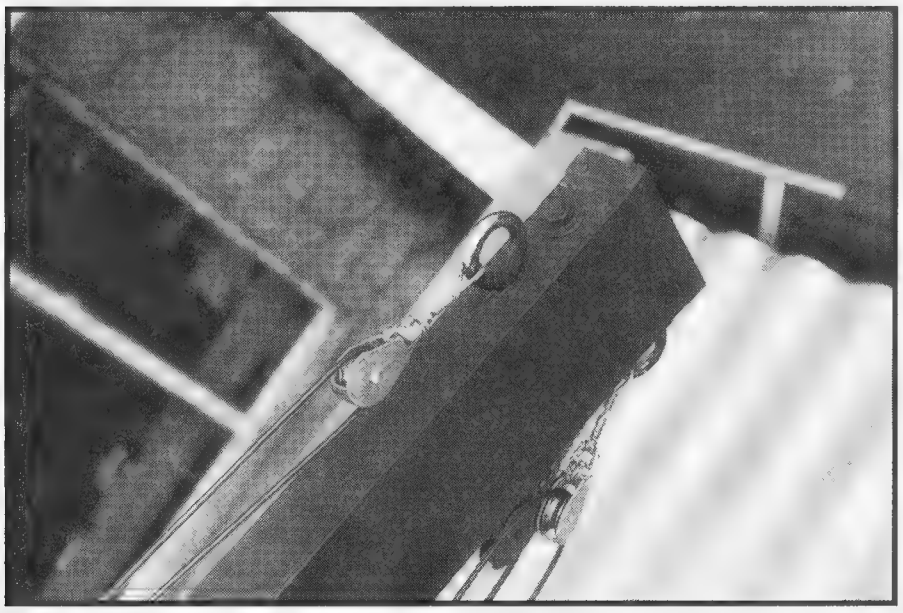

Photo 3 - Eye bolts and pulleys.

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long galvanised bolts (sorry about the mixed measurements - generally, nuts and bolts sold in hardware shops are Imperial measurement. By the way, you may have to go to a rural supplier to buy genuine galvanised hardware). These brackets must be pre-painted with a metal primer such as Kill-Rust™, then painted again with your mast paint. Note the use of galvanised thimbles where the guy wires pass through the bracket holes.

Some steel merchants have galvanised tube which needs no painting. But the common blue- or brown-painted material must be metal-primed and top-coated before it is placed into the ground. The life of the tube will be considerably increased if the hole is topped with concrete, about one bag, to just above ground level as shown in Fig 1 and Photo 5. Note how the paint has been extended from the steel tube down onto the concrete to form a water-tight seal. Fabricate a snug cap for the steel post similar to the top cap.

Select, or provide, suitable tie-off points for the three guys, at about 120 degrees, and spaced at least 4 m out from the base of the mast.

If no suitable existing structures are available on or in your property, sink a treated pine or red-gum post (such as a railway sleeper) at appropriate point(s) as required. To avoid scalping and tripping accidents, the guy tie-off point must be above head height. If, for some reason, the guy must pass where persons may walk into it, run the guy through some white conduit tube *a la* the power company method.

Fig 2 shows a way of raising the mast. Choose a still day for the job. Make absolutely sure that the pivot bolt hole and "shoot home" bolt hole in the steel base and mast lower section match each other exactly.

Your shoot home bolt should have a point ground on the threaded end to aid in alignment.

The mast is first placed on the (carport) roof next to the steel base, then raised by two persons so that the pivot bolt may be inserted. The nut is spun on, but not tensioned. Have all guys and halyards laid upon the roof so that they will not tangle.

The second person, now at ground level, must have the shoot bolt and nut to hand, and perhaps a hammer as well.

Photo 4 - Guy wire bracket.

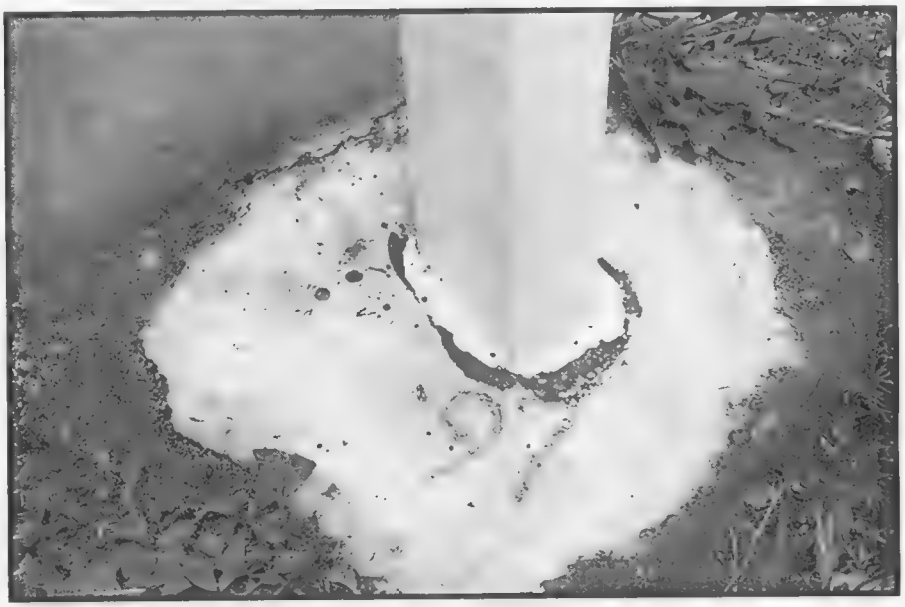

Photo 5 - Base of the steel post.

Whilst the person on the ground pulls on the rope, the mast may be easily "walked up" to vertical.

Remove the rope and insert the shoot bolt (perhaps with the aid of a hammer, but using no great force - if it won't go home, find out why). Tension the shoot and pivot nuts. Tie off the three guy wires, straining evenly so that the mast remains vertical. Now run up your favourite sky wires.

References and Further Reading

1. Practical Wire Antennas, J Heys; RSGB Publications.

2. Radio Communication Handbook, 6th Edition; RSGB.

3. Australian Carpenter Metricated, C Lloyd; Published by Macmillan.

ar

Test Equipment

A Sensitive HF Indicating Wavemeter

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Early radio workers generally talked about "wavelength" rather than frequency. To this day, many of us still use terms like "the 10-metre band", but everyone knows we mean the 28 MHz band.

Just why the metre-band nomenclature persists is a bit of a mystery. Anyway, a device which measures radio frequency by the resonance method is still called a "wavemeter".

Generally, an absorption wavemeter is simply an adjustable LC tank (or cavity) which is coupled to an energised circuit. Resonance is indicated by some means external to the wavemeter, such as a flick in the plate current of a power amplifier, or a dither in the frequency of an oscillator, or a dip in terminated power level in microwave work, and so on, as the wavemeter's variable is swept through the appropriate range.

An indicating wavemeter has a detector built-in. Where substantial power levels are used, the indicating device may be a pea-lamp, for instance.

Early high-class wavemeters used a thermocouple meter. When point-contact diodes became available, they were quickly applied as rather sensitive detectors, and were much better than any previous passive device.

In the past decade or so, wavemeters (of both types) have become rather unfashionable, perhaps because of their perceived lack of sensitivity and accuracy. Indeed, for the past few years, the mainstream radio handbooks have only carried details of VHF and UHF wavemeters, and have allowed the HF meter to fall into obscurity.

This is a pity because, when properly applied, the wavemeter represents the purest form of spectrum analyser, and has many applications in contemporary radio work.

Here are details of a sensitive indicating wavemeter with a frequency range from 1.7 to 55 MHz. Sensitivity is such that a nominal one milliwatt output (applied to a small three-turn coil) from an HF signal source is easily detected. My oscillating dipper can be sniffed at about 100 mm coil spacing.

The meter may find application, for instance, in checking that an oscillator is working (and indicate its approximate frequency); that a multiplier tank is tuned to the correct harmonic (and also indicate the relative amplitude of any unwanted frequencies there); that an amplifier stage is working; and for the presence and relative amplitude of spurs, parasitics or harmonics on your radiated signal.

Furthermore, the wavemeter may be used for field-strength work, either as a simple sniffer, or by coupling a small antenna to the wavemeter's coil. An optional headphone output also allows us to listen for any modulation on the signal.

Circuit

Three plug-in coils cover the range from 1.7 to 55 MHz as follows: Range A (L1) from 1.7 to 4.1, Range B (L2) from 4.1 to 16, and Range C (L3) from 16 to about 55 or 56 MHz (depending on strays).

When the wavemeter's coil is coupled to the field of the energised circuit, then brought to resonance by manually adjusting the variable capacitor, the RF voltage thus obtained will be at maximum. The dual diode detector, connected by the 1.5 pF capacitor, will establish a proportional DC voltage across the one megohm sensitivity pot, where the slider is adjusted to present a user-controlled value to the meter amplifier.

A common LM-386 is wired here as a DC, or servo amplifier. Circuitry inside the LM-386 sets the gain, and establishes the quiescent (no-signal) DC output at pin 5 to half the supply voltage, in this instance +4.5 V. A voltage divider comprising a 3.3 k resistor from +9 V, a 500 ohm trim pot and another 3.3 k

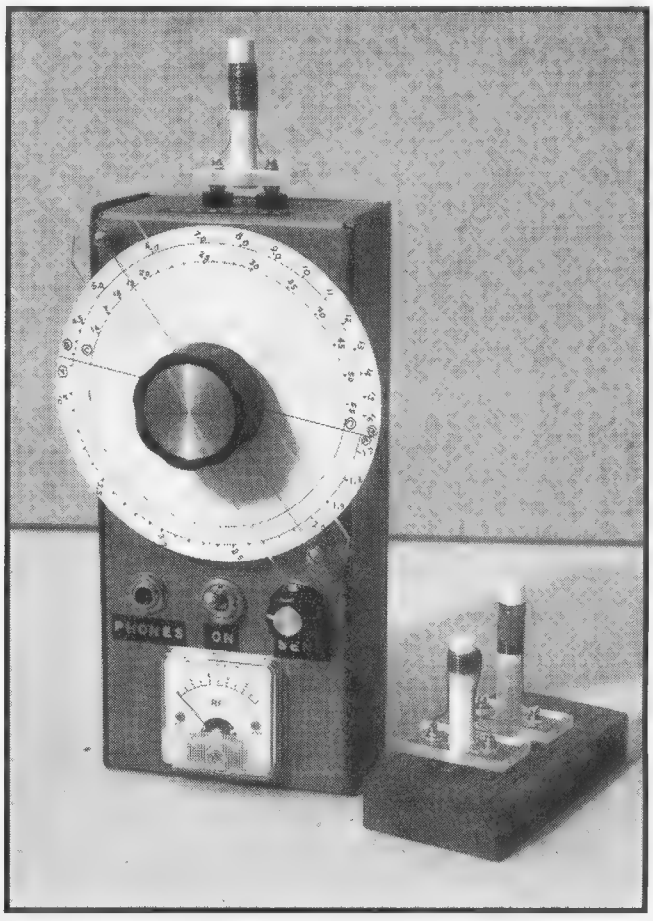


Photo 1 - The wavemeter and coil set.

resistor to chassis, produces a voltage of about +4.5 V at the slider of the trim pot.

The 1 mA meter is connected in what is virtually a bridge arrangement. Now, the relatively small positive DC detected signal voltage applied to the (+) input of the LM-386 is amplified, causing the DC output at pin 5 to move in a more positive direction, thus unbalancing the bridge and proportionately driving the meter. A small-signal silicon diode is connected at the amplifier input to prevent strong (within reason) signals from damaging the amplifier.

A connector for high or low impedance headphones allows the user to "listen" to the signal. Current drawn from the 9 V "transistor" battery is about 5 mA.

Construction

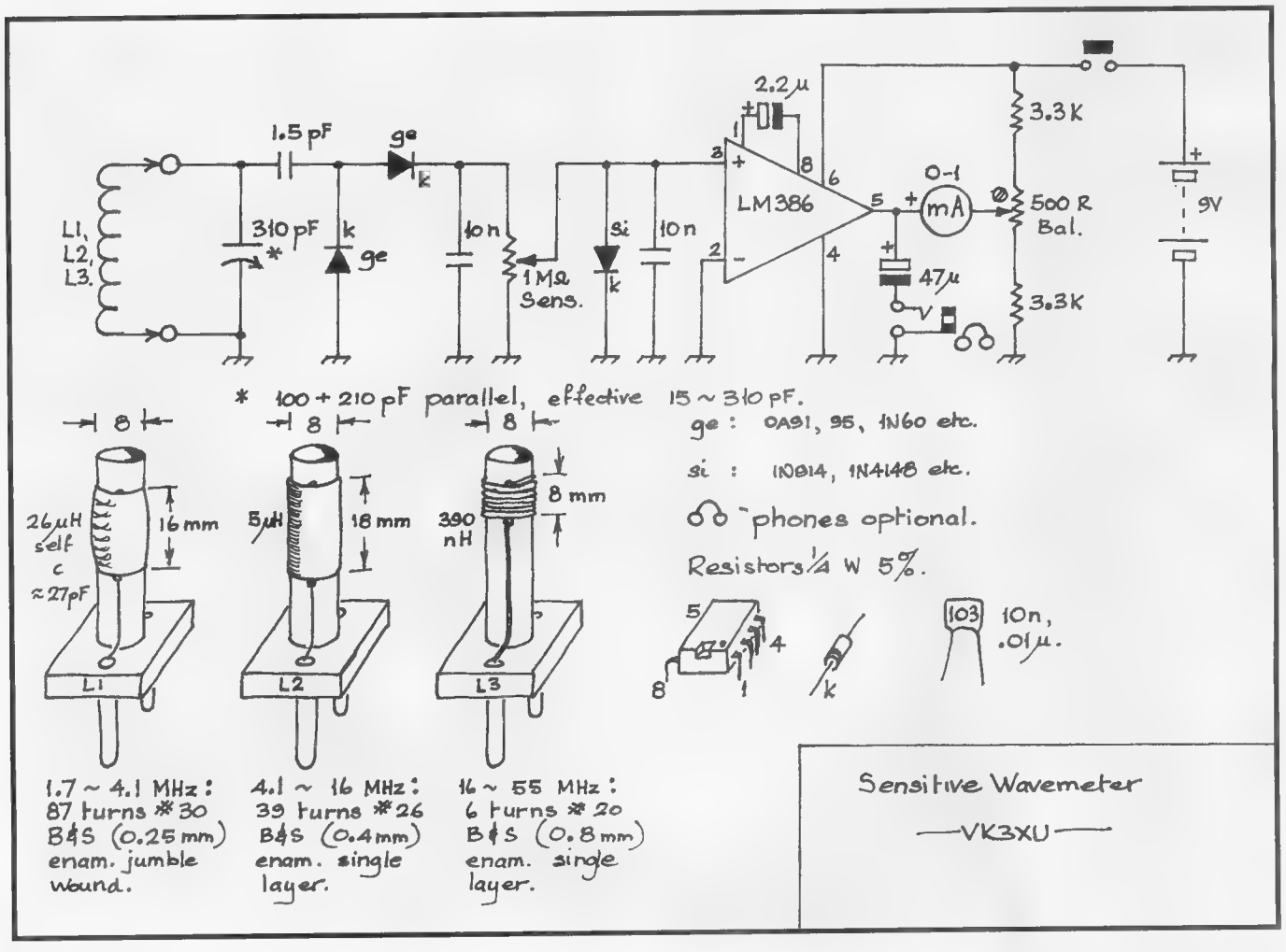
The instrument is housed in a home-made aluminium box measuring 90 x 190 x 50 mm. Yours may be smaller if desired, but note that the dial should be reasonably large to provide good resolution. Use is made of the tag arrangement on the variable capacitor, where each section (or gang) has a tag at each side.

To keep stray capacitance and inductance to a minimum (which would reduce frequency range, especially at the high end), the capacitor should be mounted with tags pointing upwards and downwards as shown in Photo 2. The 100 and 210 pF gangs are wired in parallel (there is some discrepancy as to the actual value of the gangs in these new surplus capacitors - my Marconi bridge measures them as stated, but some suppliers give them a different value - nevertheless, if the specified capacitor is used, there should be no problem). Remove the screws and prise off any trim capacitors if fitted.

A rectangle of plain printed circuit board is mounted adjacent to the variable capacitor's lower tags. The LM-386 and associated components are mounted upon substrates "paddyboard" fashion (see Reference 1). Any other preferred wiring method should be satisfactory, but component connections should be reasonably short, especially those of the 1.5 pF capacitor, the detector diodes and the 10 nF capacitors. Use long-nose pliers as a heat-sink when soldering these parts.

The coils, depicted in the schematic drawing, are wound upon the outer barrels of Biro™ ball-point pens, which are 8 mm diameter. One pen provides sufficient material for three coil formers. Any two-pin plug and socket type that you prefer should be satisfactory. Those shown are ordinary banana types from Dick Smith Electronics.

The plugs may be threaded or glued into Perspex (or similar low loss) material. Use super glue to cement the coil form into a 8 mm hole drilled centrally in the Perspex base. You will find it easier to wind the coils onto the formers beforehand. The number of turns



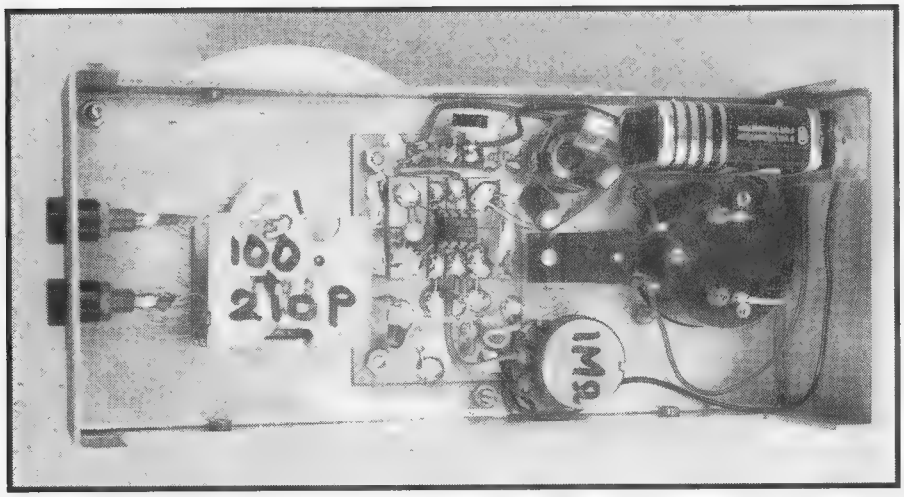


Photo 2 - An internal view of the wavemeter.

specified refers to whole turns, so don't be too concerned about those half turns which go through the 1 mm holes.

Wind the coils by mounting your spool of wire in a vice, stretch out a few metres of wire, then walk towards the spool, maintaining tension on the wire at all times. Carefully poke the wire end through the second 1 mm hole whilst gripping the coil between forefinger and thumb, otherwise the winding will spring off. So that the Perspex is not melted, it would be prudent to pre-tin the banana plugs before they are fitted into their bases.

The aluminium disc dial shown has a diameter of 110 mm, and is painted with two coats of flat white undercoat auto spray. Compass two concentric circles preparatory to calibration. The fixed cursor is made from a length of the same Perspex as used for the coil bases. The cursor line was produced with a sharp scriber, then filled with black crayon and polished off. The cursor may be fixed to the case (as shown), with the dial disc attached to a home-made flange on the cap spindle, which rotates beneath the cursor; or the disc may be fixed to the case with the cursor attached to the back of the knob (probably easier, because no flange is required).

Calibration

Check your wiring and component placing, then switch on. Adjust the 500 ohm balance trim pot for zero deflection on the meter. Rotate the sensitivity pot through its range and see that the meter does not deflect off zero by any significant amount (it may move about one-tenth of a minor division).

You will need a signal generator, dip oscillator, or similar calibrated signal source. For a signal generator, set the frequency to 1.7 MHz at maximum output (at least 1 mW or 0 dBm). Install a small three-turn coil into the signal generator output. Plug in wavemeter coil L1 and position it about 10 mm away from the three-turn coil, then peak the variable capacitor for maximum deflection whilst adjusting the sensitivity pot for an on-scale deflection of the meter.

Check similarly at 4.1 MHz. Leave the signal generator there and insert L2. You should find that a small overlap exists, in that 4.1 MHz is again picked up at the low end (max C) of L2. Tune the signal generator to 16 MHz, which should peak near the top end (min C). Leave the signal generator there and insert L3, which should tune at the low end. Set the signal generator to 55 or 56 MHz, which should be found at the top end of L3's range.

With the ranges thus confirmed, dope the coils then go back and calibrate each dial scale range.

A dummy cursor with holes through which your pen or pencil may be inserted will be found useful as a calibration aid. My dial scale is shown here as a guide only - it should not be relied upon to match individual coil/capacitor combinations.

However, your calibrations should work out similarly. Remove the disc and apply a coat of clear lacquer to protect the markings.

If using a dip oscillator as a signal source, couple each wavemeter coil to the dipper's coil spaced initially about 50 mm end to end. Adjust the dipper and wavemeter in a manner similar to that described above.

Operation

After calibrating the instrument, you will probably already have a "feel" for the sensitivity and possibilities of the device.

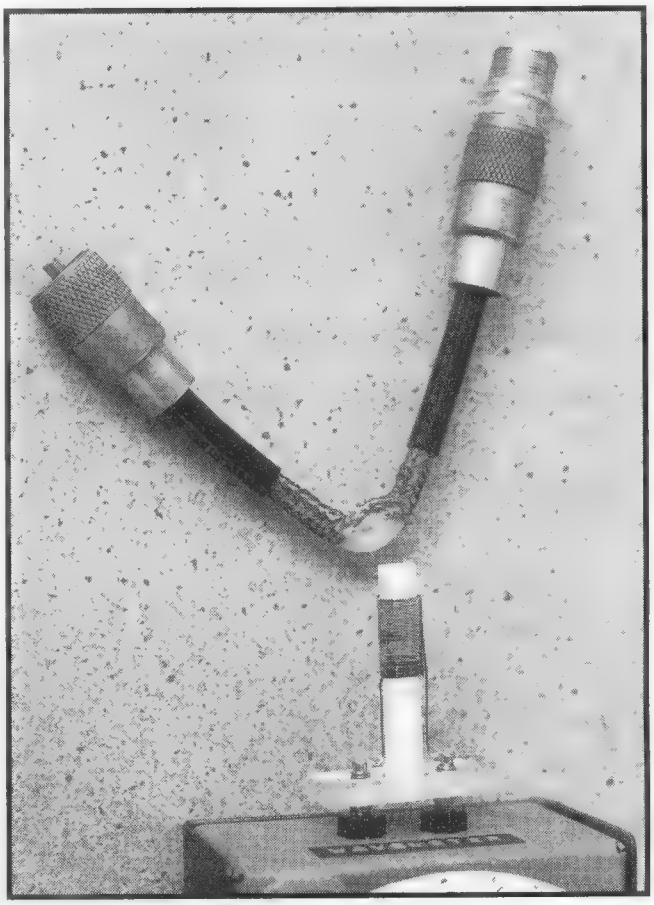


Photo 3 - The coax signal sampler (see text).

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Some applications have already been mentioned.

Take care when investigating high power or high voltage circuits. It should never be necessary to place the coil very close to a high power tank, for instance. Signal pick-up at 300 mm spacing should be adequate for normal purposes. Low power transmitters and oscillators will require rather closer coupling, depending on power level.

Photo 3 shows how a transmitter's output may be checked for unwanted signals.

Make up a short length of coax with a suitable connector at each end. Remove about 50 mm of coax jacket, bend the coax into a hairpin loop, then, using a scriber, carefully work the inner conductor out of the braid. Try not to break any of the braided wires.

Interpose your "sampler" cable between the transmitter and the dummy load. Hold the wavemeter coil near the sampling loop. Tune for the main signal first (as reference) then go looking for any suspected unwanted signals (eg harmonics).

Parts

The only special component is the 100 + 210 pF variable capacitor (a 365 pF single-gang will do). In addition to their ubiquity at hamfests, these are available from Truscotts Electronic World, 30 Lacey St Croydon 3136, phone 03 9723 3860, who can supply Perspex sheet in small quantities as well (I have no commercial connection with any such supplier).

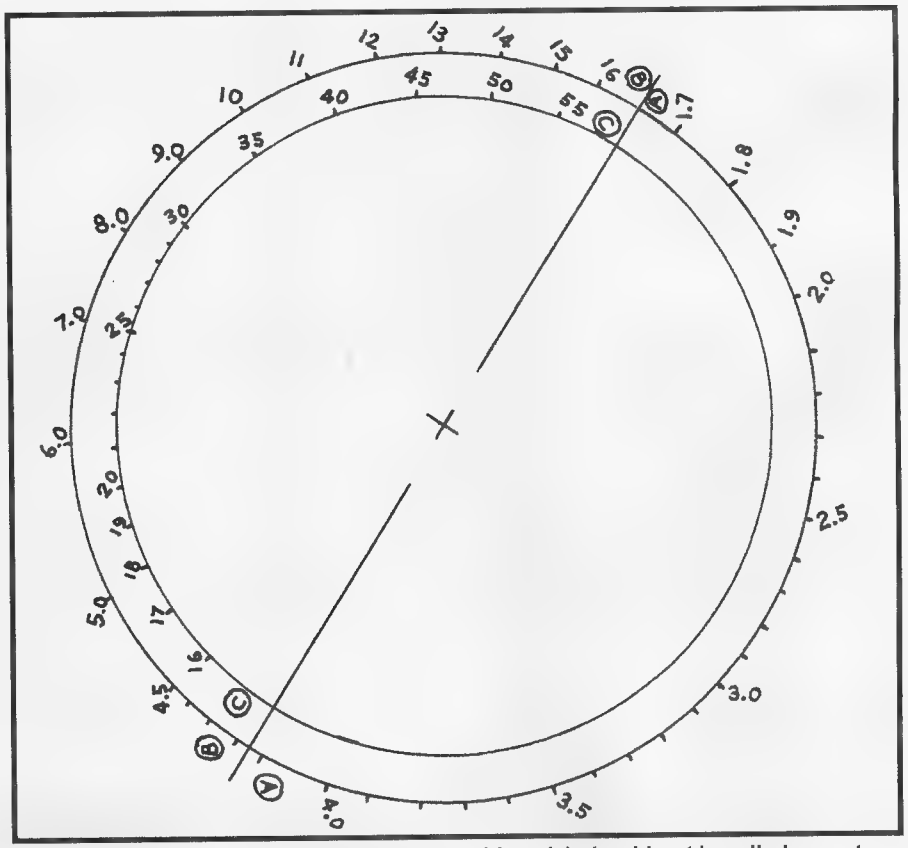
The remaining parts should also be available from any of the well-known electronics suppliers. However, I always keep a few spares. Do please write to me if you have genuine difficulty in locating suitable components.

References and Further Reading

1. "Paddyboard" Circuit Construction; Diamond, Amateur Radio Feb 1995.

2. Is it working properly? Use a Wavemeter; Blakeslee, W1KLK, HRH June 1977.

3. A Spectrum Analyser for Five Pounds; Ogden, G4JST, Ham Radio Today, July 1983. **ar**



My dial scale (shown here actual size as a guide only) should not be relied upon to match individual coil/capacitor combinations.

Technical

Technical Abstracts

Gil Sones VK3AUI
30 Moore Street
Box Hill South VIC 3128

The Cube Tamer

The simple handy power supply we know as a plug pack is known elsewhere as a wall cube or as a wall wart. They are handy sources of DC for a variety of uses, but are usually not regulated. In *QST* May 1998 a circuit appeared which will provide a regulated output from one of these devices. The circuit was the work of Mike Aiello N2HTT.

Mike packed a rectifier and some filter capacitors, together with a three terminal regulator, into a jiffy box. A plug pack or, as he called it, a wall cube, can be used with the circuit to give a regulated DC supply for a project. As the circuit contains a bridge rectifier and a filter capacitor it can be used with either AC output or DC output plug packs. You just need one with sufficient output for your requirements.

The circuit is shown in Fig 1. Mike provided for three inputs so that an AC plug pack or either polarity plug pack output lead from a DC plug pack could be used. The regulated output can be via the connector of your choice.

Plug packs often have outputs which vary somewhat from the nominal and so it pays to check. The output is load dependent from most types which is why the cube tamer came into being.

The rectifier used in the original was a 400 V 4 A bridge, but for most cases any potted silicon bridge rectifier would do. The regulator used was a one amp type.

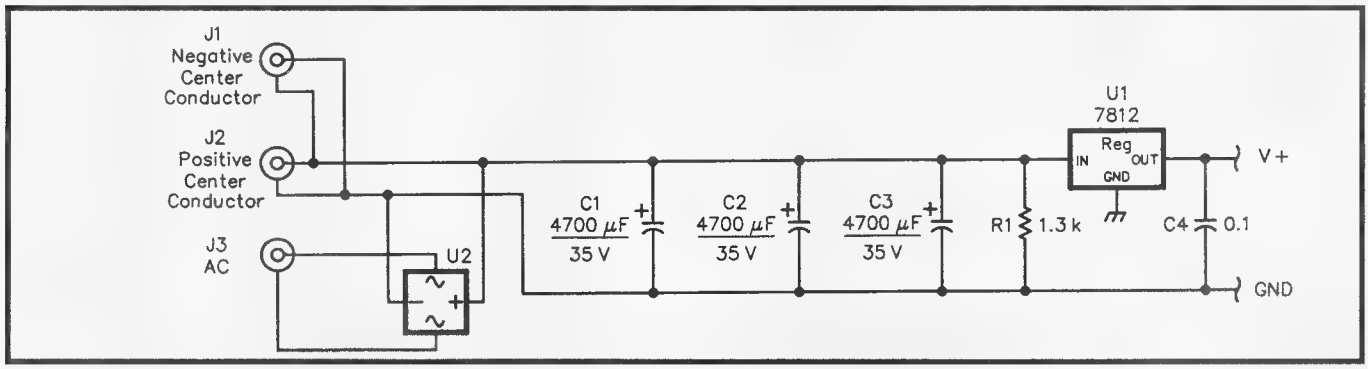


Fig 1 - Schematic diagram of the Cube Tamer.

RF Speech Clipper

An RF speech clipper allows heavy clipping without the harmonics and intermodulation products present in audio clippers.

A circuit using relatively readily available components appeared in the *Eurotek* column of Erwin David G4LQI in October 1998 *RadCom*. The circuit was the work of Joachim Münch DF4ZS who wanted to give some more punch to his QRP SSB signal.

The clipper is shown below in Fig 2. The circuit uses Murata ceramic filter

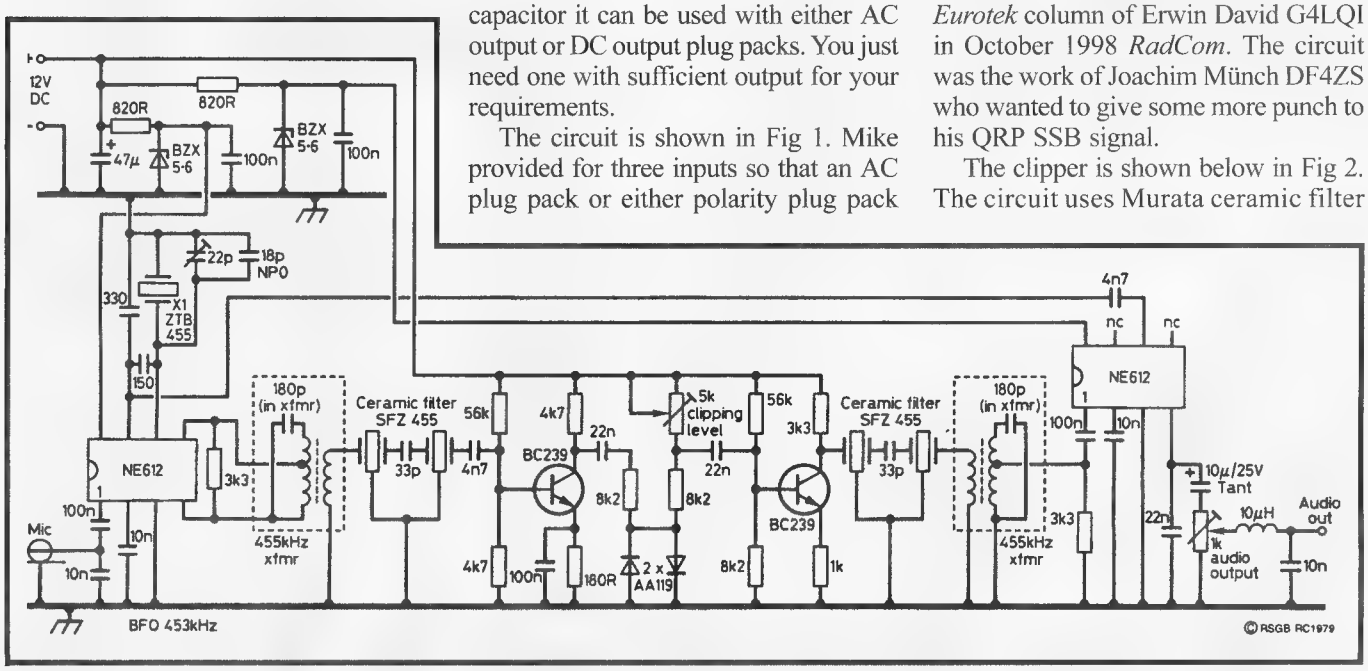


Fig 2 - Schematic diagram of the DF4ZS RF Speech Clipper.

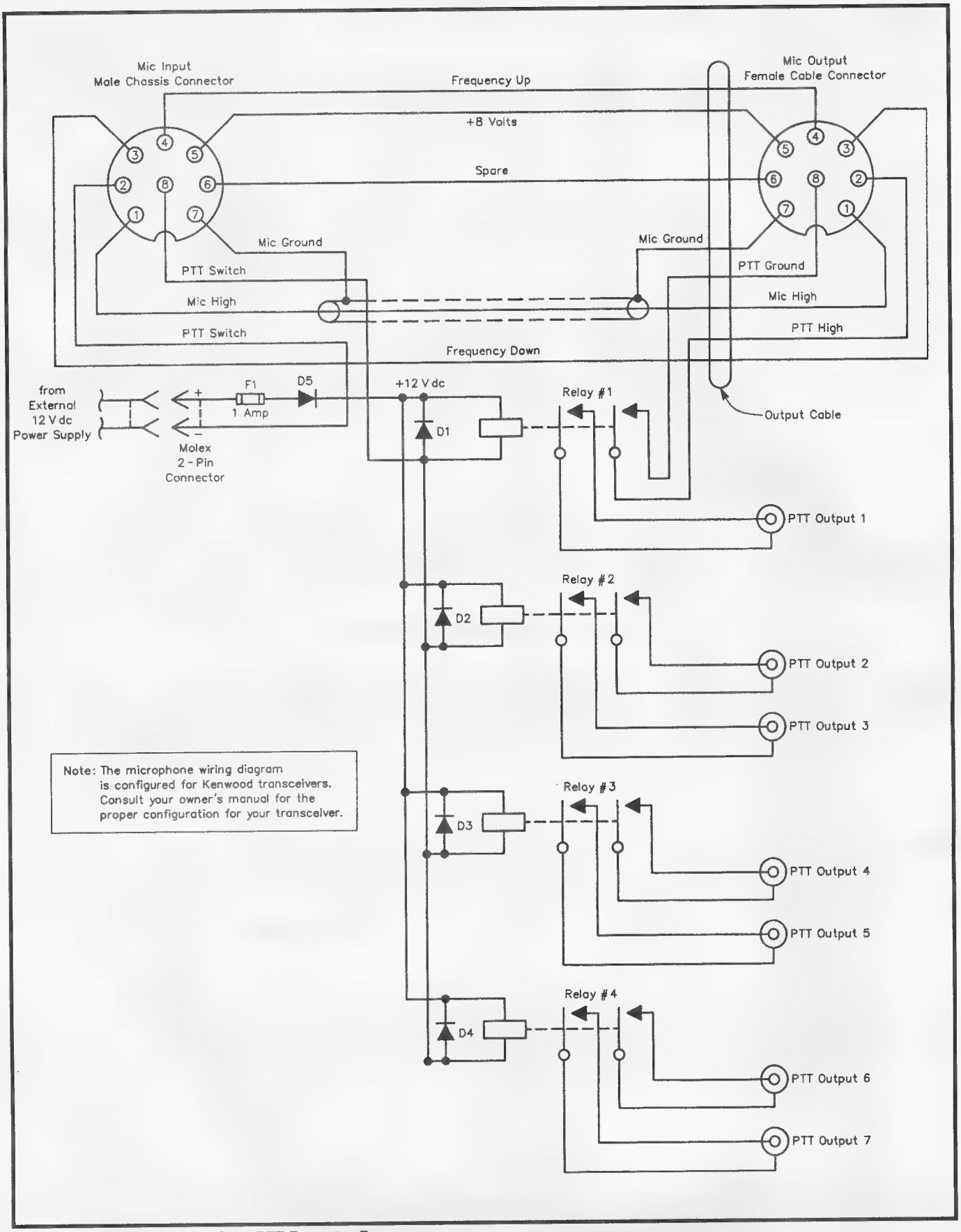


Fig 3 - Schematic diagram of the PTT Repeater Box.

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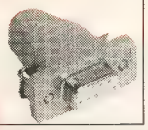

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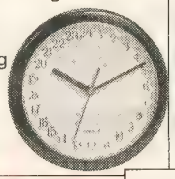

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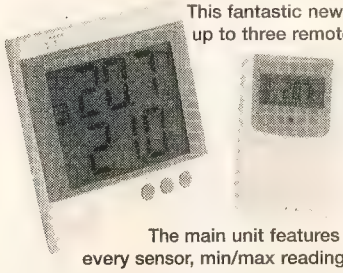

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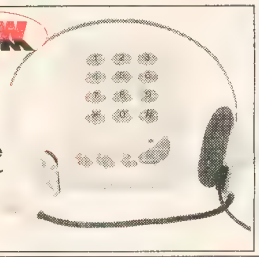

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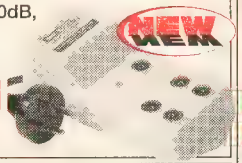

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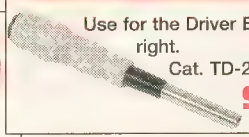

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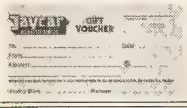

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elements both for the 453 kHz oscillator and for the 455 kHz filters. The oscillator resonator is a Murata ZTB455 and the filters use a Toko S74232 Black Core resonator with a Murata SFZ455 ceramic resonator.

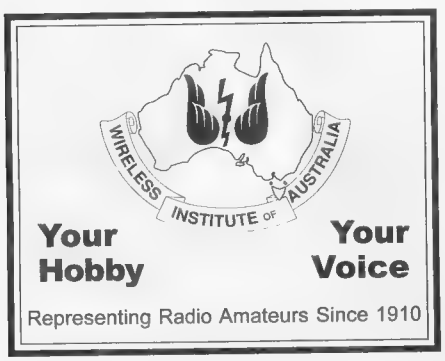
Setting up should be done with a two tone generator and CRO. A counter would also be useful. The test equipment does not have to be pretentious as the clipper works at 455 kHz.

PTT Repeater Box

A handy transceiver accessory appeared in August 1998 issue of *QST*. A PTT repeater accessory box was described by Dave Miller NZ9E. This accessory was for a Kenwood transceiver but, with a little modification to the microphone connections, could be used with other brands of transceiver. There is considerable variation in microphone connections between manufacturers.

There are many occasions when it is necessary to key accessories from the PTT line. Most transceivers have an auxiliary output but it often has limitations as to voltage, current and polarity. The accessory box overcomes the limitations by intercepting the PTT line in the microphone cable and relay isolating the auxiliary outputs. To ensure relative timing the PTT to the transceiver is also relay switched.

The circuit is shown in Fig 3. Relays for this circuit could be any small 12 volt relay from one of the usual suppliers. Small relays with one amp contact ratings should be suitable for most of the usual accessories. The 12 volt nominal supply could come from the transceiver power supply or you could use a plug pack. Do not forget to install the diodes across the relay coils or the back EMFs could cause a lot of trouble. The diodes are 400 V, 1 A silicon diodes. **ar**



Book Review

RSGB IOTA Directory & Yearbook 1998/99

Publisher: Radio Society of Great Britain
Reviewed by: Ron Fisher VK3OM

It is just over a year ago that I reviewed the 1997 edition of the RSGB IOTA Directory. Amazing as it seems, something over 8000 copies of that original directory were sold. It seems that there is a good deal of interest out there.

This new edition has been brought right up to date and should be required reading for any IOTA enthusiast or for any amateur interested in DX in general. If you haven't caught up with IOTA, a few words of explanation might not go astray.

IOTA stands for "Islands on the Air" and, with the upturn in propagation on the DX bands, has become an extremely popular way to work both to and from out-of-the-way places. However, to participate on the "from" side, you don't have to travel to Timbuktu. A suitable island might be right at the end of your street and you can chase islands from the comfort of your shack at home.

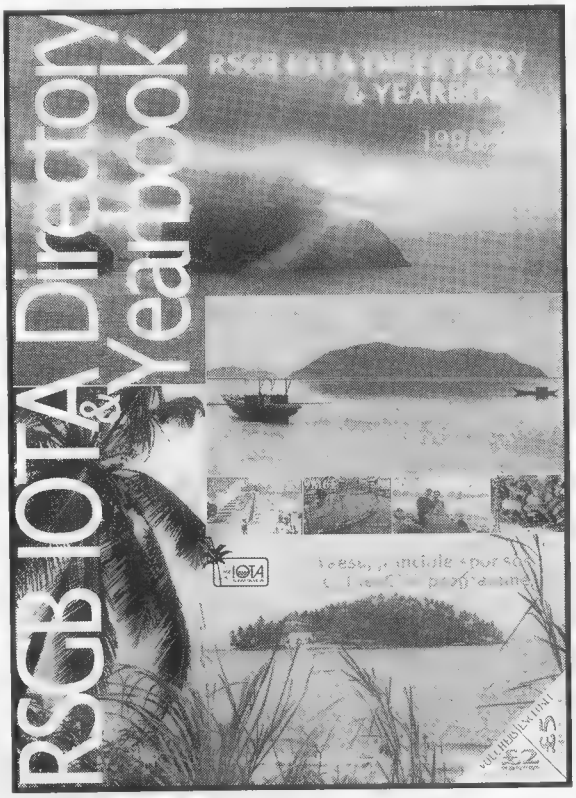
So, what does the new edition have? Even if you already have the earlier edition, it is the yearbook section of this new book which makes it worthwhile. The yearbook has been completely revised and contains the Annual Honour Roll listing, articles on IOTA and the Environment, Internet sites and the new certificate holders. Much of this new edition is in colour with plenty of excellent photos of both island expeditions and home station participants.

There are eight pages of "DXpedition Roundup" describing the major IOTA expeditions which have taken place since the previous edition, illustrated with over 40 colour photographs and maps.

The new IOTA Directory runs to a total of 112 pages which is 17% larger than the earlier edition.

Our review Directory was sent direct to us from the RSGB. You can obtain one from the RSGB direct either by using your credit card to pay $US20, which includes air mail postage, or by forwarding 26 IRCs plus four IRCs for air mail postage.

If you are the least bit interested in DX, the RSGB IOTA Directory & Yearbook is highly recommended. **ar**



Novice Notes

Amateur Radio on Public Transport

Peter Parker VK3YE
12/8 Walnut Street, Carnegie VIC 3163
E-mail: *parkerp@alphalink.com.au*
Novice Notes Online: *http://www.alphalink.com.au/~parkerp/nonline.htm*

Introduction

Most articles and handbook chapters on mobile operation concentrate on operating from private cars and boats. They normally assume that it is possible to mount a fairly efficient antenna outside the vehicle.

Users of public transport do not usually have this luxury. Nevertheless, it is possible to enjoy amateur radio while travelling in trains, trams, buses and ferries. This article tells you how. It's based on personal experience gained from operation on trains, trams and buses in three states.

Advantages and Disadvantages

Operating from public transport has a number of disadvantages compared to transmitting from a car. These include the need to carry your own power source (instead of relying on the car battery), the lower transmit power possible from hand-carried transceivers, and the difficulty of erecting antennas outside the vehicle. All this means that a portable station in a bus or train carriage will have a lesser range than a mobile station.

However, this type of operation has advantages too. Not having to concentrate on the road and having both hands available means that using and adjusting equipment is easier. The greater height of coaches (compared to cars) means that in-coach antennas operate better than might be expected. The risk of being stopped by police for operating a mobile transceiver is eliminated and the novelty factor of working a train or bus mobile station increases the number of contacts obtained.

There are some differences between operating in urban and rural areas. In cities there will often be a choice of repeaters to use if the signals into one are marginal. In contrast, when travelling through the country, there will be times when no repeater at all is accessible.

Repeaters may be located in a poor position relative to the railway or coach route, or be at some distance from the route taken. In such cases, there may be coverage for only a 10 or 15 km stretch of the road or track before the repeater becomes inaccessible. At other times, much longer distances are easily covered.

Novice Notes Online URL Change

Novice Notes Online has been moved to another Internet Server Provider (ISP). To see *Novice Notes* articles on the Internet, readers should now point their browsers to *http://www.alphalink.com.au/~parkerp/nonline.htm* . Any bookmarks or links should also be updated. The *Australian QRP Home Page* and *Peter Parker's Projects Page* are also affected by the change. To get to the revised pages, type in *http://www.alphalink.com.au/~parkerp/* .

For example, with 2.5 watts and a dipole antenna it was possible to access the 6950 Mt Ginini repeater from Cootamundra, some 120 kilometres away. Such distances are not common; ranges of 15 to 30 kilometres are more usual.

Provided that you can access a repeater, contacts are possible over the repeater's entire coverage area. The longest distance contact made from a train by the author was a South Australian station who was worked when the Melbourne-bound XPT train was approaching Wagga. The contact was possible due to a sporadic-E propagation opening.

Equipment

The author has taken some or all of the following on trips made:
Yaesu FT-290R two metre all mode transceiver (with batteries);
Sony ICF7600D general coverage LW/MW/SW SSB/AM receiver;
12 V, 6.5 AH sealed lead acid battery;
Dipole antenna for 146 MHz;
Earphones;
Call Book or repeater list;
Map of area travelled, preferably showing repeater sites;
Logbook.

Any two metre or two metre/seventy centimetre handheld would be a good choice for the transceiver. A rig with a wide-band VHF/UHF receiver is best for tuning around in areas where no amateur repeater is within range. Buy the matching headset or plug in your own earphones to avoid disturbing other passengers.

Some hand-held transceivers come with a choice of several battery packs to provide for different transmit power settings. An RF output power level of five watts or so is desirable, particularly in rural areas, to maximise transmitting range. However, a trade-off has to be made between talk time and power output.

NiCad battery packs are usually adequate for short trips. A 12 volt sealed lead acid battery (3 to 7 AH) is better for longer journeys. See your transceiver's operating manual for advice on connecting your rig to an external 12 volt battery. When it's not convenient to carry such batteries and chargers, alkaline dry cells are highly recommended. These are expensive but can provide hours of reliable operation on long trips.

For best results, use an antenna better than the standard helical supplied with most handhelds. A vertical dipole made from RG58 coaxial cable is compact, flexible, quick to make and delivers good performance from a coach or train carriage. Suction cups should be used to attach the antenna to the inside of the window, perhaps concealed behind a curtain. Constructional details of such an antenna appeared in a previous *Novice Notes* and can be found on *Novice Notes Online*.

Operating

Most contacts will be on FM. This is because of the greater activity on FM and the existence of repeaters. The vertical polarisation that FM operators use also helps because vertical antennas are easier to erect in a coach or train carriage than the horizontal antennas used for SSB.

However, having said this, mobile SSB operation is always interesting and allows greater range than FM simplex. The ability to tune around for beacons (ranges of 60 - 120 km are typical) is another benefit of carrying SSB gear. If you do go SSB mobile, tell others about your trip and/or arrange times for local operators to listen for you to maximise the possibility of making contacts.

You should know the locations of repeaters along your route before setting off. A repeater list, such as in the ***WIA Call Book 99***, and a good map (showing mountains) is useful here. Make a list of repeaters within 50 or 100 kilometres of your route and try accessing them as you travel along. Always use the actual location of the repeater (usually a mountain) rather than the nearest big town with which repeaters are often identified. The repeater may be some distance from the town and not be easily accessible from within the town itself.

Information on the locations of repeaters is also important when deciding on which side of the train carriage or coach to sit. If there's a choice, get a window seat facing the direction of most repeaters that you wish to use.

Even quite large towns may have repeaters that are accessible with a 25 watt mobile station, but not with a two watt handheld in the town centre. The author has found that calling on 146.500 MHz is sometimes successful. Provided the other station has a good antenna, simplex contacts from a coach lasting 20 or more minutes are possible, especially if traffic congestion is reducing travel speed. Simplex operation is also practical in capital cities such as Melbourne, where the terrain is mainly flat.

Receiving

When it is not possible to trigger repeaters or obtain simplex contacts, it's interesting to see what can be received from inside a bus or train carriage. In such situations, a scanner and/or HF receiver is useful.

Receiving beacons on the low end of two metres has already been mentioned. Use an SSB receiver for best reception. Those without an SSB receiver could try tuning in to the Morse practice beacons that operate in some cities; able to be received on a standard FM transceiver, their range can be considerable.

Below the AM broadcast band there are low frequency beacons for aircraft navigation. These transmit a Morse Code identification and, sometimes, weather bulletins. In most areas, several of these should be audible.

If you can extend the telescopic whip of your short wave receiver, it may be possible to pick up foreign broadcast stations, especially if travelling in a coach or bus. The time of day is important; around noon you may not hear anything, but signals improve by the early evening. Reception of stronger HF amateur signals may also be possible, depending on band conditions.

Many VHF/UHF amateur transceivers include extended coverage VHF/UHF reception facilities. This allows reception of commercial and other two-way radio traffic. Either program several known active frequencies into the memories, or use the radio's scan feature.

The main problems encountered when trying to use a receiver in a train, tram or bus are noise and shielding caused by the vehicle's metal body. Both trains and coaches can generate noise, but this usually is not serious, at least on VHF. However, trams can be a noisier receiving environment. Shielding of signals is not usually a severe problem on a bus or coach, especially if it has large windows. Trains are significantly poorer RF environments than buses, and reception of LF, MF and HF signals is usually non-existent unless the signal is very local. Interestingly, VHF radio reception is usually quite good on a train. Whatever vehicle you are in, placing the receiver near the window usually improves signal strength.

Other Activities

This article has concentrated on voice repeater and simplex operation. However, other modes may be possible whilst bus or train mobile. Packet (in conjunction with a laptop computer) and CW offer the advantage of not requiring a microphone (thus drawing less attention to oneself). However, packet requires stronger signals than FM voice, and is prone to frequent disconnects. CW operation would allow longer transmitting ranges than SSB or FM simplex. However, the lack of activity means that you would need to arrange skeds with operators along your route beforehand.

Contesting is another activity that should be practical from a bus or train. Those contests that have high local VHF activity combined with credit for repeat contacts (such as the Remembrance Day) would be well suited to this type of operation. Travel on the major rail lines or bus routes would place you within easy simplex range of most operators at some time during the contest period. Routes that produce the most contacts could be travelled every few hours to maximise the number of repeat contacts. The purchase of a daily or weekly ticket is suggested to keep the fares incurred by this amount of travel low.

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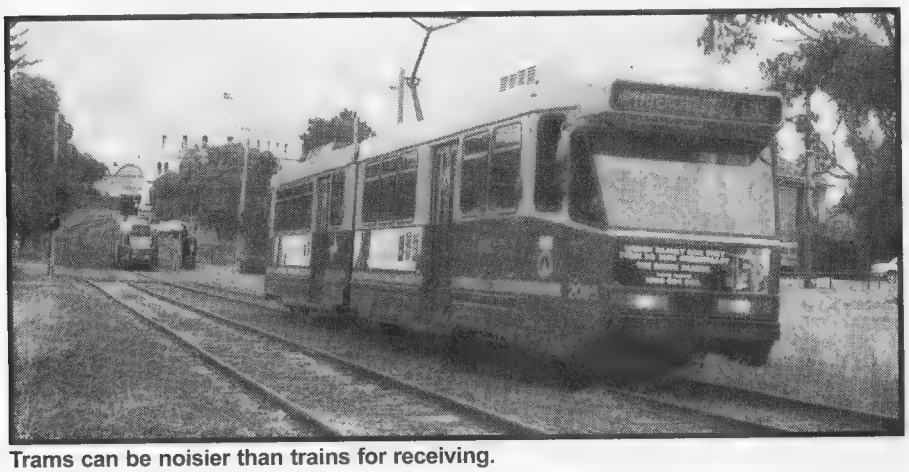


Trams can be noisier than trains for receiving.

Operating

Work 'em First, Worry Later - or How to Obtain QSL Routes

Hank Pruncken VK5JAZ
57 Davenport Terrace
Wayville SA 5034
slezak@dove.net.au

It has been said that working rare and exotic DX stations is a lot easier than getting QSL cards from them. The very first problem encountered in getting a QSL card is trying to determine the correct QSL route. Well, here are some tips to make that task easier.

Don't Let the Trees Obscure Your View of the Woods

The most efficient way of getting a station's correct QSL route is simply to ask the station operator *"What is your QSL route?"* when you work them. Although this may seem obvious, many DXers overlook it. But having said that, operating conditions often prohibit asking the obvious — as is the case in big pile-ups for DXpeditions and during WW contests.

If you find yourself in this position, the next best way to obtain the QSL route is, after working the station, to standby on the frequency and listen for the operator's instructions. DXpeditions, and other rare callsigns, will generally transmit their QSL routes every few minutes in a bid to keep the traffic flowing; make note of their details.

"Fall Back" Options - Plan A

If these two methods fail because the station suddenly "signs," QSYs to another band, or QRN, QRM, or QSB obscure their transmission, there are a few "fallback" plans you can use.

One option is to read through the many DX-bulletins which are posted to the packet bulletin board network (Oh, don't say that you aren't on packet! If you're not, read my article, "VHF Packet Radio: Six Steps to Digital Paradise" in *Radio & Communications,* November 1997, pp 32-35, and you'll be convinced otherwise). These messages can either be read on-line or downloaded to your PC.

For example, one of the most popular QSL bulletins on packet is *425 DX News* (distributed weekly over the radio network) and another is the *Ohio/Penn DX Bulletin* (edited by Tedd Mirgliotta KB8NW). Have a look for them by setting your packet LC list mask to "dx*" and list the last fifteen or so packet messages — you should find them there.

While logged onto your packet BBS, have a look under the subject heading of "qsl*". Again, list the last 15 items and you may find information relating to the station you're hunting.

Plan B

Another fallback plan is to send a packet radio message with your QSL request to

Title screen from DB1JAW's QSL Database program.

one of several amateurs who maintain QSL databases. These volunteers include: Maurie, VK6NGG@VK6JZA.#PER.#HWA.AUS.OC; Nigel, G0RRW@GB7DBY.#23.GBR.EU; and Martin, OK1RR@OK0PRG.#BOH.CZE.EU.

Maurie's motto is, *"If I don't have it, it hasn't happened yet."* You can gauge from this mission statement how seriously these guys take their job; and if you avail yourself of their services, you can be sure of some pretty good results.

Plan C

Also, don't overlook the three excellent columns in *Radio & Communications*, namely *DX & Band Report*, *Islands on the Air*, and *Updating All the DX*, as well as VK2PS's column in *Amateur Radio* entitled *How's DX?*. These columns have their "finger on the pulse" and list all the action as it happens.

Lastly, if you have access to the Internet, you can check out one of the on-line call books, such as Buckmaster at *http://www.buck.com/cgi-bin/do_hamcall.cgi* or QRZ at *http://www.qrz.com* . These are the two most popular on-line databases and have hundreds of thousands of callsigns listed. Better still, these databases are up-dated daily, so if you are looking for a rare callsign and it isn't listed, wait a day or two and check them again - the callsign may have been added in the meantime.

Plan D

While you are on the Internet, log onto *http://www.qrz.com/~db1jaw* . Here you'll find a QSL database created and maintained by radio amateur Michael DB1JAW. It is entitled *QSL Extra* and is not an on-line database but an executable program that is updated by Michael bi-monthly (see the title screen on the previous page).

It can be down loaded from his Web site for free, and it will run on any PC, even an old machine with a 286 CPU! This program is an essential tool for any serious DXer! I recommend it.

Reinforcements Have Arrived

If you are looking for callsigns from such places as Andorra, Bermuda, Botswana, Canada, Egypt, Estonia, Finland, Germany, Guernsey, Hong Kong, Iceland, Italy, Lebanon, Lesotho, Luxembourg, Malaysia, Mozambique, Namibia, South Africa, Swaziland, Taiwan, Tajikistan, Tanzania, Zambia, or Zimbabwe, then have a look at my Web site at *http://dove.net.au/~slezak/vk5jaz.htm* . I have links to all of these call books and they can all be "interrogated" on-line.

Good Luck

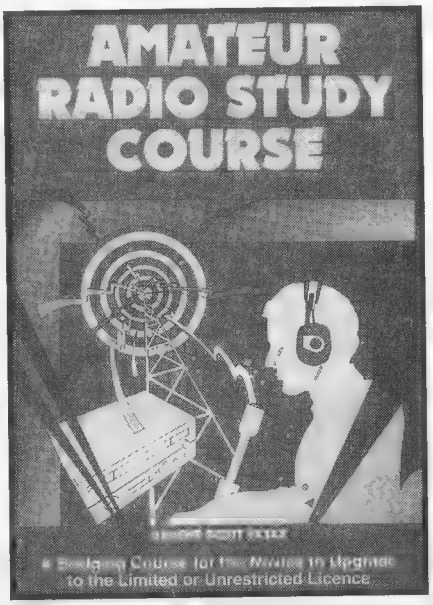
As I said in the beginning, it's often easier working rare DX than getting the QSL cards. But, armed with this information, hopefully your first task will be made a little easier. Good hunting!

ar

■ Book Reviews

Amateur Radio Study Course *and* Radio Amateur Licence Study Guide

Author: Graeme Scott VK2KE
Reviewed by: Ron Cook VK3AFW
ISBN: 0 9587366-1-8 *and* 0 9587366-2-6
Paperback: 297 by 210 mm, 76 *and* 36 pages
RRP: $13.00 *and* $10.00



These two books provide a bridging course for the Novice to use for upgrading to either the Limited or Unrestricted licence.

I have critically reviewed both, and while they are not perfect and have one or two small errors, I can recommend them for their intended purpose and congratulate Scotty on a job extremely well done.

In its seventy six pages the Amateur Radio Study Course book packs fifteen chapters and a trial AOCP theory exam. To get the best for your efforts in reading this book, however, you really do need the companion Radio Amateur Licence Study Guide.

After studying Chapters 1 and 2 of the Study Course, the student can then attempt the questions in the Study Guide for those chapters. The questions are in the same multiple choice format of the AOCP exam and the correct choices are given at the back of the book.

If any incorrect answers are given by the student, he or she returns to the Study Course and revises that part of the work before proceeding with the next chapters.

The Course recommends that the chapters should generally be studied in pairs.

This is an excellent and proven self-training system. Of course, the most important element is the Course Notes. Generally, I found the content to be accurate, clearly presented, and just at the right level. ⇨

Amateur Radio Study Course

Chapter 1: Electrical Laws and Circuits

This covers batteries and cells, Ohms law, power dissipation, resistors in series and parallel, AC, capacitors, inductors, tuned circuits and transformers.

It was in this chapter that I discovered an error. Whilst the text is correct, the diagram (Fig 1.8), which should show an integrating circuit, has the R and C transposed to make it a differentiating circuit.

Chapter 2: Circuit Symbols

This is quite short and has a collection of common circuit symbols with their names.

Chapter 3: Mathematics

This describes reactance, impedance, decibels and some binary logic.

Chapter 4: Power Supplies

This is a brief and non-mathematical treatment.

Chapter 5: Semiconductors

This is a bit light on, in my opinion.

Chapter 6: Vacuum Tubes

This also is brief - one page. While it lists the types of vacuum tubes still in use in transmitters and amplifiers, it does not explain the differences between a triode and a tetrode.

Not of much importance perhaps in today's solid state world; however, there is (or was until recently) at least one AOCP exam question in the bank which expects this knowledge.

This chapter has a diagram and description of a CRT.

Chapter 7: Oscillator and Amplifier Principles

I found the choice of transistor variable oscillators, the Armstrong and the Clapp a little unusual. Also, I would have expected at least one circuit to have a varicap in it.

Chapter 8: Transmitters

Again this is pretty superficial, with only two partial circuit block diagrams.

Chapter 9: Receivers

The coverage here is a bit better. There is a complete FM receiver block diagram and two photos of transceivers.

Chapter 10: Antennas and Transmission Lines

This has a reasonable coverage but does not show a sketch of the construction or the radiation pattern of a Yagi.

Chapter 11: Propagation

Surprisingly the sunspot cycles did not rate a mention; however, it is a good introduction of the very basics.

Chapter 12: Test Equipment and Measurements

I was surprised to see Lissajous figures score a whole column. If this is still an examination topic, then of course it must be included.

Otherwise, more space could have been devoted to the oscilloscope which these days may be a digital one.

As an aside, if the application of Lissajous figures is still an examination topic then it is high time it was eliminated. When was the last time a radio amateur made a frequency measurement this way?

The professionals stopped using them over thirty years ago!

Chapter 13: Interference

This is an important topic, and gets a satisfactory treatment.

Chapter 14: Advanced Modes of Transmission and Reception

The topics covered are high definition TV, slow scan TV, RTTY, repeaters, beacons, packet and satellites. The treatment varies from two paragraphs to two-thirds of a page each.

Chapter 15: Safety

Apart from the obvious hazard of electric shock, other hazards such as RF, acids and alkalines, PCBs, Beryllium oxide, are mentioned. The care necessary when charging batteries is covered. The dangers of indiscriminate mobile transmission, and overhead power lines, are also mentioned.

There is also a trial AOCP exam but, unfortunately, no answer check sheet that I could find.

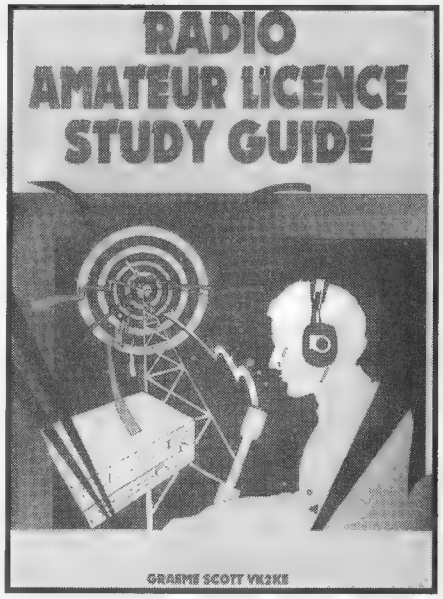
Radio Amateur Licence Study Guide

The Study Guide is a most valuable part of the pair, providing almost instant feedback on the student's knowledge. It has typically more than twenty questions on each chapter.

I only noted one error, where the symbol for a screened transformer only showed the screen, but no transformer.

Conclusions

The knowledge required to pass the AOCP is not particularly deep, but is wide ranging. This pair of books represent the quickest way I have seen yet for a Novice operator to study privately and successfully for the AOCP. It is recommended for this. It would also be excellent for club classes, in which further discussion could supplement the contents of the study course.



If you hold a NAOCP and want to upgrade, these books are definitely for you. They are inexpensive and may be obtained from the author, Graeme Scott VK2KE, PO Box 385 Albury, NSW, 2640.

If you want an in-depth reference and theory book, then buy the ARRL Amateur's Handbook or a similar publication as the treatment is too superficial for anything other than as a first introduction and its intended purpose.

Thanks to Scotty for providing the review copies.

ar

Amateur Radio Best Contribution Awards

At its October meeting, the Publications Committee selected the article by Will McGhie VK6UU "16 Digit DTMF Decoder" as the best contribution to the October issue.

At the November meeting the Committee's choice was the article by Drew Diamond VK3XU, "A J-Pole Antenna for Two Metres".

Bill Rice VK3ABP **ar**

ALARA

Christine Taylor VK5CTY
ALARA Publicity Officer

16 Fairmont Avenue, Black Forest SA 5035

Packet: VK5CTY@VK5TTY

ALARA Contest

The Contest, run under its new rules, was a great success. Many more contacts were made than usual and much fun was had by all. As always, the ALARA Contest is a friendly contest; this year the repeat contacts made it better than ever. Now all that is left is for everyone to send their logs to Marilyn VK3DMS at 68 Bowering Lane Mildura 3500.

YL (and other) Awards

If you are a YL interested in awards, particularly with other YLs, the listing in October *Amateur Radio* is for you.

Australia has the ALARA Award open to YL and OM amateurs, local and DX. New Zealand has two awards, with the WARO Century Award gained in steps. There are more awards available for and with US YLs, which is not surprising as there are more amateurs of all categories in that country, but we can aim for many of these awards from VK land.

The DX-YL only requires 25 YL contacts outside your own country. Have a go! One day you may join Gwen VK3DYL in the DXCC list. After all, there are now 331 countries on the list!

Interstate and Overseas Visitors

In September, Christine VK5CTY and Dot VK2DDB joined the regular ALARA luncheon in Melbourne. Although Bron knew that Christine would be at the luncheon, she didn't say so when Dot told the Monday Net that she was planning to use some Fly Buy points to attend. Dot was suitably surprised. It was particularly nice that the date was actually Mavis VK3KS's birthday.

Present (see photo 1) were, l-r back row, Christine VK5CTY, Robyn VK3ENX and Dot VK2DBB, and in the front row, l-r, Bron VK3DYF, Mavis VK3KS, Jessie VK3VAN and Jean Shaw (who has been intending to try for that licence for a number of years - maybe soon, eh, Jean?).

When in Geraldton, on their 10 week trip to VK8 and VK6, Meg VK5AOV (now VK5YG - LHS of photo 2) and OM David VK5OV, visited Bev VK6DE (RHS photo 2) and Brian VK6AI. They were delighted to find that Bev had Casayo JI3CGH (centre, photo 2) with her OM Ayano and three year old daughter visiting them at the same time.

Photo 1.

Meg says the little daughter has been taught a number of English words during her stay and could sing "Twinkle twinkle little star" She especially loved being carried round high on Brian's shoulders.

One of the main purposes of the choice of route and time of the trip Meg and David followed was to see the wildflowers. They were overwhelmed by the variety and beauty of them all. Geraldton was a particularly good area. They can recommend VK6 for a caravan holiday, especially in early Spring.

On their way round Australia for the third time, Maxie DJ4YL and her sister Marille had a lovely picnic with Dot VK2DDB and her family while in Sydney in October. They also stayed with Christine VK5CTY and Geoff VK5TY at their shack in the country in early November (they have been 'hearing' about this shack for many years in letters, now they have seen it themselves!).

The timing of their Adelaide visit also allowed them to join the VK5 girls for the regular luncheon, of which there might be a photo next month.

Some Historical Notes

Did you read the packet bulletin entitled "World's oldest YL ham"? If so, this is not news to you, but it will be for others.

Education Notes

Brenda M Edmonds VK3KT
Federal Education Co-ordinator
PO Box 445, Blackburn VIC 3130

Seasonal greetings and all good wishes for 1999 to all readers.

At the end of a year, it is common to consider the past year and tally achievements and failures. In my field, 1998 has not been a very satisfactory or productive year, although other bodies may have achieved more than I have. Much of the time has been spent in waiting for responses from other organisations or persons.

What has been achieved? New updated Regulations examination papers have been approved and put into use. A few more are in process of being approved. This has been the result of the changes made during the reviews of the Radiocommunications Act and the Regulations.

What has not been achieved? I have not been able to convince the ACA to publish the resource material for the amateur service in booklet or brochure form. I feel that the present system of putting everything up on the Internet discriminates against people who do not have access to the Internet, and is causing stress because many of the candidates do not know what they are expected to learn.

As far as I know, there is no list published of all the papers that are needed by a candidate, and there are several papers from which only a few paragraphs are required. A candidate who downloads all the necessary papers finds that it forms a stack about 2 cm high - a bit different from the three brochures RIB 70, 71 and 72.

I have also not been able to finalise discussions on syllabus matters with the ACA. This has had to wait until the status of the examination devolvement is more advanced.

A meeting of the ACA liaison group with the ACA is scheduled for early December. We hope that at that meeting we will find out the ACA's intentions regarding the future of the examination service. A number of possible changes have been foreshadowed, but until more is known of the intentions many of the WIA plans have had to be put on hold.

And what about 1999? I can only hope that some of these up-in-the-air matters will be finalised, that a simpler system will be put into place for examinations, and that the membership of the WIA will start to recover and increase.

Again, my best wishes to you all. **ar**

Iris ZS2AA is 95 years old! She qualified as a ham in 1937, and is still active, and still drives a car from which she operates on two metres. Only recently Iris had a new tri-bander erected at her QTH from which she is active on the HF DX bands.

Iris is an Honorary Life Member of the South African Radio League and an Honorary Life President of the Border Radio Club.

Thanks to Colin ZS2CR for the bulletin.

Following on my historical items in October *Amateur Radio*, I had a very interesting letter from Dave VK6ATE with some more information about early YL activities. It has shed some light on the mysteries of early radio participation by YL operators in VK6.

For example, a Miss Stevens was listed as an early 'experimenter'. Alan discovered that Miss Stevens was known as 'Ghostly Stevens" because of the way she used to flit around the corridors. She was the Science Mistress at Bunbury High School and used to reward her 'achievers' by keeping them in after school to listen to 6WF, the only station then in WA.

Miss Stevens does not appear to have taken out a Transmitting licence when they became available and no more is known of her after 1939. Do you know any more?

Do you know anything about similar participation in your state? Do you have contact with any early amateurs, even those no longer active in the hobby.

Please talk to them or let them talk to you about their experiences before we lose all that information. If any of the stories concern YLs please send me a note about it. ALARA has quite a number of names about whom we know only that. We'd love to know more.

It's Christmas! Greetings to All!

This issue will reach you as you start your Christmas preparations. I hope the fairy drawn by Sally VK4SHE will bless you with her wand and give you a giggle when you see the radio on her waist. We must keep our priorities right, mustn't we?

73 to everyone, 33 to the YLs. May the Festive Season bring you all you wish. **ar**

Photo 2

NEW AR ADDRESS

Please note that the address for all correspondence, articles and Hamads for *Amateur Radio* magazine has changed to:

PO Box 2175
Caulfield Junction VIC 3161

AWARDS

John Kelleher VK3DP
Federal Awards Officer
4 Brook Crescent, Box Hill South, VIC 3128
Tel: 03 9889 8393

VK1 Award

From Tex VK1TX comes information on the prestigious VK1 Award. This award is issued by the WIA ACT Division to any licensed amateur operator or short-wave listener. The certificate displays one of Canberra's most distinctive landmarks, the Telecom Tower, situated on Black Mountain in the heart of Australia's Capital City. The tower is depicted in light blue on a white background with award information in black lettering.

The information required is a log extract showing date and time in UTC, mode, call sign of the VK1 station worked, and ciphers exchanged. Short-wave listeners should include the station worked by the VK1 station being claimed.

Each VK1 callsign worked counts as one point. Each callsign may only be claimed once. The change of status to mobile, portable, etc is not allowed as a separate valid contact. Contacts via terrestrial repeater systems are not valid contacts towards the award.

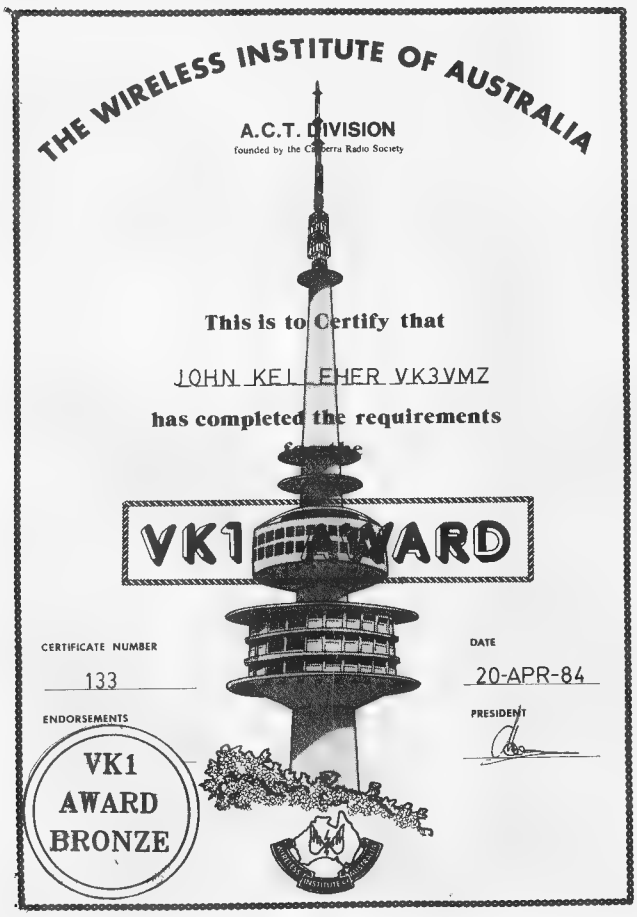
Requirements

HF Within VK (excluding VK9 & VK0)
Basic Award ..... 20 points.
Bronze Upgrade ..... 50 points.
Silver Upgrade ..... 75 points.
Gold Upgrade ..... 100 points.
HF Outside VK (including VK9 & VK0)
Basic Award ..... 10 points.
Silver Upgrade ..... 25 points.
Gold Upgrade ..... 50 points.

VHF and higher frequencies requirements are the same as HF outside Australia for all areas. Cost of the Basic Award is $AUS3.00 or five IRCs. Each upgrade costs $AUS1.00 or five IRCs.

In an attempt to assist stations qualifying for the award, a VK1 Award Net operates each Sunday evening on 3.590 MHz immediately following the VK1 Divisional Broadcast, at approximately 2030 hrs EAST.

Applications for the Award should be addressed to: The Award Manager VK1TX, 27 Buckley Circuit, Kambah ACT 2902.



LRMD-60 Award Rules

The following information from the Lithuanian Amateur Radio Society was received too late to be included in the November issue of *Amateur Radio*.

This Award is issued to commemorate the Lithuanian Amateur Radio Society's 60th Anniversary. EU stations need to make six QSOs with different special LY stations (using LY60, LY61, LY62, LY63 and LY64 prefixes). Non EU stations need three such QSOs. On 50 MHz, VHF and UHF stations need only one QSO with a special LY station.

Special LY stations will be active until 31 December 1998. Applications should be in the form of a GCR list, include a fee of $US 5.00 or 10 IRCs, and will be accepted until 1 April 1999. The address for all applications is: LRMD Awards Manager, PO Box 1000, Vilnius, Lithuania 2001.

French Awards

The following are extracts from the French Awards Programme. The following general rules apply to all certificates and awards issued by the REF (Reseau des Emetteurs Francais) and should be read in conjunction with the conditions which govern the award of individual certificates.

1. All REF certificates and awards will be issued to transmitting and/or SWL.

2. In agreement with the IARU Region 1 rules, each claim must be accompanied by a QSO list and by a statement from the applicant's national DX Awards Manager that correctly filled in QSLs are really in the possession of the applicant. If it's not possible, the applicant must submit all the QSLs concerned.

3. In the case of any dispute concerning a claim, the decision of the council of the REF shall be final.

The DUF Award (Diplome de l'Univers Francophone)

May be claimed for having contacted/heard, and having received QSL cards from the DUF countries list.

DUF 1 Awarded for contacting five different DUF countries in three continents.

DUF 2 Awarded for contacting eight different DUF countries in four continents.

DUF 3 Awarded for contacting 10 different DUF countries in five continents

DUF 4 Awarded for contacting 20 different DUF countries in six continents.

DUF Medal A very nice medal which can be claimed by all recipients of DUF 4.

DUF Countries List

Europe
01 - France F
02 - Corsica TK
03 - Monaco 3A
04 - Andorra C3
05 - Fr Army in Germany DA/DL

Africa
06 - Algeria 7X (after 1-7-62)
07 - Tunisia 3V
08 - Morocco CN
09 - C African Republic TL (after 13.8.60)
10 - Congo TN (after 15.6.60)
11 - Ivory Coast TU (after 7.8.60)
12 - Benin TY (after 1.8.60)
13 - Gabon TR (after 17.8.60)
14 - Rep of Guinea 3X (after 1.10.58)
15 - Mali TZ (after 20.6.60)
16 - Mauritania 5T (after 20.6.60)

17 - Niger 5U (after 3.8.60)
18 - Senegal 6W (after 20.6.60)
19 - Chad TT (after 11.8.60)
20 - Burkina Fasso XT (after 5.8.60)
21 - Cameroon TJ (after 1.1.60)
22 - Togo 5V (after 27.4.60)
23 - Djibouti Rep J2
24 - Malagasy Dem Rep 5R (after 14.10.58)
25 - Mayotte FH (after 5.7.75)
26 - Comoros Rep D6 (after 5.7.75)
27 - Reunion FR
28 - Glorioso FR/G (after 25.6.60)
29 - Tromelin FR/T (after 25.6.60)
30 - Europa FR/E (after 1.8.68)
31 - Juan de Nova FR/J (after 25.6.60)

South America

32 - French Guiana FY

North America

33 - St Pierre - Miquelon FP
34 - Martinique FM
35 - Guadeloupe FG
36 - Saint Martin FG/FS
37 - Saint Barthelemy FG/
38 - Clipperton FO0

Asia

39 - Vietnam XV
40 - Cambodia XU
41 - Laos Peo Dem Rep XW

Oceania

42 - New Caledonia FK
43 - Loyalty, Belep, Huon, Pins Isl FK/
44 - Chesterfield, Walpole, Hunter, Matthew Isl FK/
45 - Wallis Isl FW
46 - Futuna Isl FW
47 - Vanuatu Rep YJ
48 - Windward Grp (Tahiti) FO
49 - Leeward Grp (Uturea) FO
50 - Austral Grp (Tubuai) FO
51 - Austral Grp (Rapa) FO
52 - Marquesas FO
53 - Gambier FO
54 - Tuamutu FO

Australes and Antarctica

55 - Adele Land FT Y
56 - Kerguelen FT X
57 - St Paul, Amsterdam FT Z
58 - Crozet Isl FT W

Fees for DUF 1, any part, 8 IRCs or $US8.00; DUF 2, 10 IRCs or $US10.00; DUF 3, 12 IRCs or $US12.00; DUF 4, 16 IRCs or $US14.00; DUF Medal, 24 IRCs or $US21.00.

Send applications for any DUF series to: Edmond Dubois F9IL, Impasse du Sauria, 13410 Lambesc, France.

DTA Award (Diplome des Terres Australes)

Each claim must be accompanied by a QSO list, and by a statement from the applicant's National DX Award Manager that correctly filled QSLs are in possession of the applicant.

FT/X - Kerguelen Island
FT/Z - St Paul, New Amsterdam Isl
FT/W - Crozet Archipelago
FT/Y - Adelie Land (Dumont D'Urville)

DTA: Proof of contact with three territories.

DTA Excellence: Proof of contact with four territories.

Contacts on or after April 1946 qualify for the award. Applicants located outside France and territories need only supply a certified GCR list. Fees for DTA awards are 12 IRCs or $12.00, and should be sent to: Max Pomel F6AXP, PO Box 73, F-63370 Lempdes, France.

Most Wanted Countries

On the subject of DX, I have pleasure in listing the 45 most wanted countries (entities):

1. P5 North Korea
2. BS7H Scarborough Reef
3. BV9P Pratas Island
4. 7O Yemen
5. E3 Eritrea
6. A5 Bhutan
7. VU4 Andaman and Nicobar Islands
8. FR/T Tromelin Island
9. VK0 Macquarie Island
10. FR/G Glorioso Island
11. VU7 Lakshadweep Islands
12. SV/A Mount Athos
13. Z3 Macedonia
14. T9 Bosnia and Herzegovina
15. ZL9 Auckland and Campbell Islands
16. 3Y Bouvet Island
17. 3B7 Agalega and St Brandon Islands
18. FT/J Juan de Nova, Europa
19. 5A Libya
20. ZS8MI Prince Edward and Marion Islands
21. FT8Z Amsterdam and St Paul Islands
22. FT8W Crozet Islands
23. 3C0 Annobon Island
24. FT8X Kerguelen Island
25. OK Czech Republic
26. VK0 Heard Island
27. VP8 South Georgia
28. HK0 Malpelo Island
29. XW Laos
30. TT8 Chad
31. PY0 St Peter and Paul Rocks
32. TN Congo
33. KH5K Kingman Reef
34. OM Slovak Republic
35. T30 Central Kiribati
36. VP8 South Sandwich Isl.
37. PY0 Trinidade and Martin Vaz Isls
38. VK9 Willis Island
39. ZL8 Kermadec Island
40. T33 Banaba Island
41. YA Afghanistan
42. EP Iran
43. S2 Bangladesh
44. 9U Burundi
45. 3B9 Rodriguez Island.

This is portion of the 1997 list. Some changes have taken place due to certain DX operations. **ar**

WICEN News

David Horsfall VK2KFU
PO Box 257, Wahroonga NSW 2076
Packet: VK2KFU@VK2KFU.NSW.AUS.OC
E-mail: *dave@geac.com.au*

The WICEN column returns! Sorry for the hiatus, gentle reader, but your scribe got caught up in some "Year 2000" software upgrades, which didn't go as smoothly as expected! Well, that's all water under the bridge now; incidentally, is your corporate database Y2K-compliant?

In the meantime, my plea for interstate news (ie other than NSW!) has borne fruit. I can do no less than reproduce some material sent to me by Trevor Connell VK8CO, the Northern Territory SCO, on formal training for WICEN personnel. This is something that will become important in the future.

National Training Syllabus

A proposal for a national training syllabus for all WICEN operators has been put to all Divisions. Moves for this have been around for several years, but nothing much had been achieved due to the slow and bureaucratic organisation that we sometimes are.

The objective of a training syllabus is to bring all WICEN operators throughout Australia to a common level of training, which is transportable between all Divisions.

The motivation to achieve agreement came when the SCO of the NT, Trevor Connell, and the State Training Officer of NSW, Peter Corkeron, combined talents, and over a period of six months produced an outline and details for a common syllabus. It is acknowledged that each State and Region may have peculiar requirements which differ from anywhere else, but provision is made to add local content.

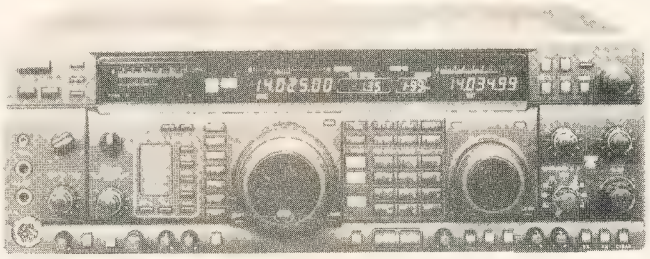
It also shows other agencies, such as SES, that we are serious about our people being trained and having recognised skills.

There is also provision for recognition-for-prior-learning (RPL), which is an ever-increasingly important phase which takes advantage of the skills that a person brings to WICEN, and avoids tedious repetition of training. By producing documentary evidence or references, you can gain recognition for some or all of the learning outcomes.

FOR ALL YOUR COMMUNICATIONS NEEDS

Yaesu FT-1000MP Deluxe HF All Mode Transceiver

Yaesu has created a new 100W HF masterpiece using proven design techniques and a major new technology to the amateur marketplace: Enhanced Digital Signal Processing (EDSP). Teamed up with Direct Digital Synthesis, an outstanding receiver section featuring a high intercept front-end and a variety of IF filters (including a Collins Mechanical Filter), the FT-1000MP's exclusive EDSP facilities provide an impressive array of IF-based noise-reduction and interference reduction filters for enhanced receiver performance. Yaesu's IF-based EDSP system provides 4 random noise-reduction protocols, audio enhancement with 4 equalisation programs for Tx and 3 for Rx, and an automatic notch filter which eliminates multiple interfering carriers. A comprehensive menu system allows you to easily hear the effect of various EDSP settings, so you can choose the best selection for your operating conditions. Front panel selectable EDSP filter contours also aid QRM rejection, providing improved signal-to-noise ratios and razor sharp selectivity. The FT-1000MP also features selectable receiver front-ends, an inbuilt AC power supply and auto antenna tuner, 2 main antenna sockets, selectable tuning steps as small as 0.625Hz, dual-mode noise blankers, 13.8V DC socket, 500Hz and 6kHz IF crystal filters, an RS-232 computer interface, and an MH-31B8 hand microphone. With so many features in this new transceiver, why not ask for a copy of the 12-page FT-1000MP colour brochure, or 46 page Technical Overview for more detailed information.



D 3400

2 YEAR WARRANTY

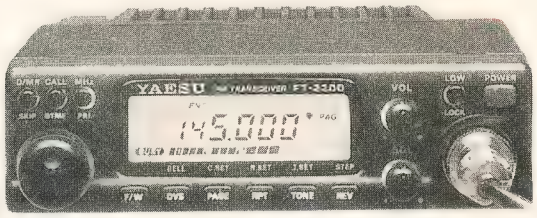
BEAT THE PRICE RISE! **$3995**

BOOK CLEARANCE	B 2105	ARRL Yagi Antenna Design	$9.95	*save $15*	25 pcs only
BOOK CLEARANCE	B 2110	Antennas – Low Band DXing	$9.95	*save $15*	40 pcs only
BOOK CLEARANCE	B 2309	RFI – How to Find & Fix It	$5.00	*save $19.95*	80 pcs only
	B 2402	Gateway to Packet Radio	$5.00	*save $14.50*	25 pcs only
BOOK CLEARANCE	B 2410	Packet – Speed & more Speed	$12.95	*save $12*	90 pcs only
	B 2400	ARRL Satellite Anthology	$9.95	*save $9*	25 pcs only

Limited stocks. Title availability may vary from store to store. No deposits or rainchecks are available on these titles.

EX DEMO CLEARANCE

Get in quick and grab a bargain! These ex-demo Yaesu transceivers may have a few marks or scratches, but you'll save a fortune. *2 YEAR WARRANTY* applies, but stocks are strictly limited.



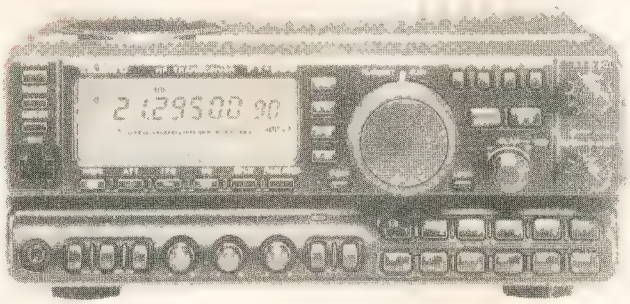
FT-2200 2m Mobile Transceiver

A compact, fully-featured 2m FM transceiver providing selectable power output of 5, 25 & 50 watts.

• 49 tuneable memories • Large variety of scanning mode • 7 user-selectable channel steps (5kHz to 50kHz) • Back-lit LCD screen and knobs • 38 tone CTCSS encoder • DTMF based paging & selective calling • 10 DTMF auto-dial memories • supplied with microphone, mounting bracket & DC power lead

D 3635

6 PIECES ONLY **$399** *SAVE $100*



Yaesu FT-900 Deluxe HF Mobile

A practical 100W HF mobile transceiver that doesn't compromise base station performance. During mobile operation, a compact front sub-panel can be remotely mounted using an optional kit. The large "Omni-Glow" backlit LCD screen provides high visibility over wide viewing angles, while the voice and data between the sub-panel and the transceiver are digital to prevent RF feedback or noise problems. A tough diecast top panel/heatsink allows extended transmissions while still allowing the optional ATU-2 auto antenna tuner to be mounted inside the transceiver.

D 3280

2 YEAR WARRANTY **$1695** *SAVE $200*

YAESU **4 PIECES ONLY**

DICK SMITH ELECTRONICS

That's where you go!

DECEMBER BEST BUYS

HF/6m Power/SWR Meter

For high-power operation over the 1.8-60MHz range, this Japanese-made Revex W500 provides a large, clear meter for ease of reading. Enclosed in an all-metal case for long term durability, the meter has power ranges of 20W, 200W and and 2kW with less than 0.1dB loss and SWR measurement.
D 1365

SAVE $20 **$149**

FT-50RD 2m/70cm Handheld

The Yaesu FT-50RD is an amazingly compact 2m/70cm amateur band handheld transceiver which provides MIL-STD 810 shock and vibration resistance, super wideband receiver coverage, simple menu settings for most functions, and compatibility with the optional Yaesu ADMS-1D software/interface package for PC programming of many functions.

Other features include:

- Tx 144-148MHz, 430 - 450MHz
- Rx 76-200, 300 - 540, 590 - 999MHz (cellular blocked)
- FTT-12 keypad provides Digital Voice Recording, CTCSS/DCS scanning, and CTCSS encode/decode
- 2m/70cm RF output: 2.5, 1.0, 0.1W standard, up to 5W with 9.6V battery or 12V DC socket
- "Omni-glow" LCD screen for easier night-time viewing
- 112 memory channels with 4 character alpha naming
- Dual watch allows monitoring of sub-band activity
- Direct FM modulation for better audio quality
- 5 battery saving systems (includes Rx and Tx Save)
- Comes with FNB-40 slimline 6V 650mA/H Nicad battery pack, flexible 2m/70cm antenna and modified M-9626 AC plugpack adaptor for Nicad charging
  D 3660

YAESU

2 YEAR WARRANTY

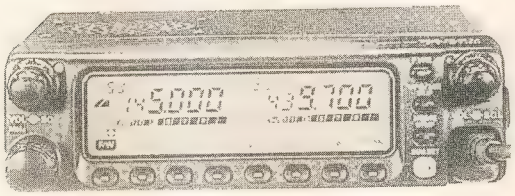
$569*

BONUS!

Pay only half price for a second Nicad pack when purchased with the FT-50RD. Limit one per customer. Applies to FNB-40, 41, 42 only.

FT-8100R 2m/70cm Mobile

The stunning new Yaesu FT-8100R is a state-of-the-art 2m/70cm band mobile transceiver that combines high power and the industry's most versatile memory system with an excellent wideband receiver and solid construction. Its US MIL-STD-810 shock and vibration rating is your assurance of years of reliable operation. Includes hand mic, mounting bracket and fused DC power cord.



Other features include:

- 198 memory channels
- 1200/9600 baud packet socket
- Inbuilt antenna duplexer
- Inbuilt crossband repeater facility
- Dual receive capability (VHF/UHF, VHF/VHF, UHF/UHF)
- Optional removable front panel

Frequency range: Tx 144-148MHz, 430-450MHz
Rx 110-550MHz, 750-1330MHz

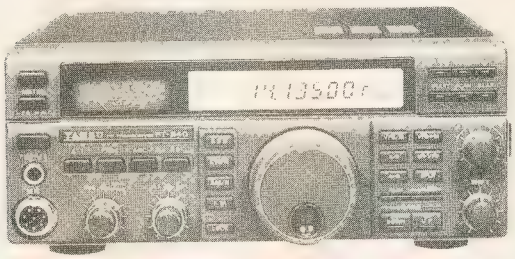
Output power: 2m: 50W, 20W, 5W
70cm: 35, 20, 5W

YAESU

2 YEAR WARRANTY

D 3314

$899*



FT-840 Economical HF Mobile Transceiver

The Yaesu FT-840 doesn't compromise performance like many current micro-rigs. You get full 160m-10m coverage with 100W PEP on SSB/CW/AM, continuous receiver (100kHz-30MHz), a large LCD screen and an effective noise blanker. The FT-840 is simple to use, with an effective SSB speech processor, IF Shift to fight interference, and DDS oscillators for cleaner transmit and improved receiver performance. Includes DC power lead and hand microphone...just connect your power supply and antenna and start having fun!
D 3275

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Currently there are three modules. These are "WICEN OPERATOR," "WICEN SUPERVISOR," and "METHODS OF TRAINING." The learning outcomes for these are:

WICEN Operator:

Learning outcomes: On completion of this module, the member shall be able to:

1. Explain the role and structure of WICEN and appropriate Emergency Services.
2. Use radiotelephone procedure to send and receive a formal message. Demonstrate the correct procedures for keeping a Radio Operators Log Book.
3. Operate in the field.
4. Use topographical maps to navigate.
5. Set up and operate a station.
6. Demonstrate safe working practices.

WICEN Supervisor:

Learning outcomes: On completion of this module, the member shall be able to:

1. Explain how to liaise effectively with other organisations.
2. Explain the roles of organisations which are likely to request the support of WICEN.
3. State the principles of man management.
4. Perform administration applicable to an activation.
5. Explain stress management principles.
6. Activate WICEN at the request of another organisation.
7. Plan, conduct and finalise a training exercise.

Methods of Instruction:

Learning outcomes: On completion of this module, the member shall be able to:

1. Explain the principles of good presentation.
2. Explain the factors in student learning.
3. Describe the four methods of instruction.
4. Explain the structure of a lesson.
5. Demonstrate an ability to perform adequate preparation for a lesson.
6. Write a lesson plan.
7. Deliver a lesson.
8. Demonstrate an ability to utilise training aids.
9. Demonstrate correct questioning technique.
10. Demonstrate suitable methods of testing.

These proposed modules have been sent to each Division so that they can be discussed and, hopefully, adopted. To date I am aware that VK1, VK8 and, I think, VK2 have decided to run with them.

There is still some supporting material to be developed, although some already exists and will require little alteration.

It is anticipated that the procedure will be that each Region Co-ordinator will RPL-assess members where appropriate, and then conduct training courses to achieve the remaining outcomes. This could take over possibly a year with the backlog, but eventually these courses would be conducted once or twice a year, possibly with regions working together.

Once you have achieved all outcomes, a Certificate of Training will be issued.

These training modules are in draft form until the end of 1999, allowing any input for improvements.

Comments can be sent to Trevor VK8CO at *connell@topend.com.au* .

ar

QSLing

Record Contacts on Your PC

Peter Wajngarten VK3OJ
9 Western Road
Boronia VIC 3155
pwajng@alphalink.com.au

Often, as an amateur, there have been times when I wished I could record contacts, or send a station a sample of their transmission. Now, with the ever increasing popularity of PCs, it has become very easy to do such recordings. I have successfully captured audio and then e-mailed the file to the station which I monitored.

Most transceivers have a constant low 'audio out' connection (often one of the components of an auxiliary jack) which is independent of the volume control. It is simply a matter of taking the 'audio out' from the radio and connecting it to the 'line in' jack of the PC's sound card.

Software is usually supplied with the sound card (or operating system), which will allow monitoring of this input. Once you can hear the radio's audio coming through the PC's speakers, it is then simply a matter of using a multimedia recorder to save the audio as a file.

It should be remembered that audio files can be quite large. For example, I took a recording of a transmission made by W4FLA and a 70 second recording at a sampling rate of 44100 Hz at 16 bits took approximately 12 megabytes of disk space. If you wish to e-mail your files I would suggest that the sampling rate be reduced as well as the bit size.

The above mentioned 12 megabyte file was reduced to 1.5 megabytes by lowering the bit size to 8 then 'ZIPPING' the file. I found that my e-mail server coped better with a 0.5 megabyte file.

As one radio amateur put it, this could now be the "Ultimate SWL Report".

ar

WIA MORSE PRACTICE TRANSMISSIONS

VK2BWI	Nightly at 2000 local on 3550 kHz
VK2RCW	Continuous on 3699 kHz and 144.950 MHz 5 wpm, 8 wpm, 12 wpm
VK3COD	Nightly (weekdays) at 1030 UTC on 28.340 MHz and 147.425 MHz
VK3RCW	Continuous on 145.650 MHz, 5 wpm, 10 wpm
VK4WIT	Monday at 0930 UTC on 3535 kHz
VK4AV	Thursday at 0930 UTC on 3535 kHz
VK4WIS	Sunday at 0930 UTC on 3535 kHz
VK5AWI	Nightly at 2030 local on 3550 kHz
VK5VF	Continuous on 145.650 MHz, 5 wpm to 12 wpm
VK6RCW	Continuous on 147.375 MHz, 3 wpm to 12 wpm

Contests

Ian Godsil VK3DID
Federal Contests Co-ordinator
25 Monaco Street, Mentone VIC 3194
E-mail: *vk3did@eudoramail.com*

Please Consider:

Space for information is always difficult in any magazine. That is why I give preference to VKs in results of international contests. Full details are available from me, or on the Internet at *http://www.wia.org.au* or *http://www.uq.edu.au/radiosport/* .

Contesting can be fun as well as challenging. Have YOU tried recently? Have your friends tried lately?

Please support your VK Contests in all ways that you can. You get the satisfaction of trying and the rig gets a work-out!!

Thanks this month to VK5OV, VK2BQS and VK3KW.

Contest Calendar December 1998 - February 1999

Dec	5/6	ARRL 160 m Contest	(Nov 98)
Dec	12/13	ARRL 10 m Contest	(Nov 98)
Dec	26/27	Stew Perry Top Band Distance Challenge	(Nov 98)
Dec	26 - Jan 11	Ross Hull VHF/UHF Contest	(Nov 98)
Dec	27	RAC Canada Winter Contest	
Dec	31	ARRL Straight Key Night	
Jan	2/3	ARRL RTTY Roundup	
Jan	8-10	Japan International DX CW (Low Band)	(Dec 98)
Jan	9/10	Summer VHF/UHF Field Day Contest	(Dec 98)
Jan	9/10	HA DX CW Contest	
Jan	22-24	CQ WW 160 m DX Contest	(Dec 98)
Jan	23/24	REF (France) CW DX Contest	(Dec 98)
Jan	23/24	UBA (Belgium) SSB DX Contest	
Feb	6/7	YU DX Contest	
Feb	13	Asia - Pacific CW Sprint	
Feb	13/14	PACC DX Contest (CW/Phone)	
Feb	19-21	CQ 160 Metres SSB Contest	(Dec 98)
Feb	20/21	REF (France) SSB DX Contest	(Dec 98)
Feb	20/21	UBA (Belgium) CW DX Contest	
Feb	20/21	ARRL DX CW Contest	
Feb	21	High Speed Club CW Contest	
Feb	27/28	RSGB 7 MHz CW Contest	(Jan 99)
Feb	27/28	Jock White Memorial Field Day (Phone/CW)	(Jan 99)

Results 1998 Novice Contest

Dave Myers VK2RD Contest Manager

18 logs received, including one SWL log.

(Posn\call\score\award)

1	VK4SM*	533*	Overall winner
2	VK4KTS/2*	465*	Highest Intermediate
3	VK3MGK*	309*	Highest Novice
4	VK2LEE	298	
5	VK7JGD*	246*	Highest VK7
6	VK3KQB	167	
7	VK4JAE	131	
8	VK2RD	115	
=9	VK3CAT	112	
=9	ZL3TX*	112*	Highest ZL3
11	VK5KMI*	109*	Highest VK5
12	VK6BIK*	104*	Highest VK6
13	VK2VZB*	77 *	CW Only Highest VK2
14	VK3NXY	65	
15	VK4WSS*	57 *	CW Only Highest VK4
16	VK2HV	45	
17	VK4LUV	38	
18	L40383*	269 *	Highest SWL

Participation was very poor this year and has declined from last year.

It appears that the "five contacts and move" rule is the major complaint. I shall remove this rule in 1999 and also request more publicity for this and other WIA contests. Ironically, the ZL and VK4 Sprints on the same evening attracted more activity than the whole Novice Contest.

I was informed of a station who gave very high serial numbers, but no log was received from this station and his call only showed on two of the logs received. There may be stations who did not return a log because they thought that they had no hope of getting anywhere against that sort of score, eg one VK2 station who had quite a high tally but no log received. This sort of behaviour does not do well for the spirit of contesting.

Thank you to all who participated and to those who returned logs.

Results 1998 Australasian Sprints

David Box VK5OV

Entries for the thirteenth series of the Australasian Sprints totalled six in the CW section and 21 in the phone section, both figures being rather disappointing.

The scores generally were very satisfactory, particularly as a few stations were operated QRP. Particular mention should be made of Peter Parker VK1PK (now VK3YE) who used a homebrew direct conversion transceiver with five watts output to an indoor 1.5 x 1.5 metre magnetic loop antenna. Also of note were the SERG club station VK5SR, which was operated on battery power and used a kite supported vertical antenna, and VK4JAE who, while on holiday in VK7, pulled off on the side of the road and recorded 12 contacts using a whip antenna.

Congratulations to the overall winners, Peter Nesbit VK3APN in the CW section and David Burnett VK5AXW in a very close Phone section.

This has been the tenth time I have been Contest Manager for the Sprints and it is the last. Someone else will take over next year. I sincerely thank those operators who have regularly entered one or both of the Sprints and without whom the contests would have flopped. In particular, I thank Alex Learmond ZL1BVK who has participated every year.

CW Sprint (Posn\Call\Score) VKs only

1	VK3APN	25 **
2	VK5NU	21 *
=3	VK5PO	20
=3	VK5XE	20
5	VK3DID	14
6	VK1PK/QRP	10 *

Phone Sprint (Posn\Call\Score) VKs only

1	VK5AXW	60**
2	VK5KCX	59
3	VK5PO	54
4	VK5SR	47*
5	VK5YX	42
6	VK5XY	39
7	VK2LEE	37
8	VK5AIM	31
=9	VK5TY	28
=9	VK5RV	28
=13	VK6NU	26*
17	VK7HX	19*
18	VK4JAE/7	12*
19	VK3DID	9*
20	VK5DUG/4	7*

Results of ANARTS WW DX RTTY Contest 1998

World Winners
(Call\Cat\Score)

CE8SFG	SO	13,177,720
UT7Z	MO	15,620,450
ONL383	SWL	2,080,740

VK World Placings
(Posn\Call\Cat\Score\Award)

3	VK2KM	SO	10563075	1st VK2
34	VK5AI	SO	2470824	1st VK5
69	VK2CTD	SO	853664	2nd VK2
109	VK2SG	SO	140988	3rd VK2
112	VK4ICU	SO	95340	1st VK4
6	VK6GOM	MO	4406832	1st VK6

Check Log from VK4CEJ

CQ World-wide 160 Metre DX Contest

CW: 22-24 Jan, 2200z Fri to 1600z Sun
Phone: 19-21 Feb, 2200z Fri to 1600z Sun

Object is to contact as many stations world-wide on 160 m as possible. VK to VK contacts are permitted for contest credit.

Categories are single and multi-operator. The use of packet, a spotting net, or logging assistant makes you multi-operator. Suggested DX frequencies are 1830-1835; W/VEs will usually operate outside this window. Look for Japan on 1907-1912.

Exchange RS(T) plus prefix or country abbreviation (VK). W/VE will send RST plus state/province.

Score two points for contacts with stations in own country, five points with stations in other countries in the same continent (boundaries as for WAC), five points for contacts with /MM stations, and 10 points with stations in other WAC continents.

Multipliers are US states (max 48); Canadian provinces (max 13); and DXCC and WAE countries. MM stations do not count as multipliers.

Final score equals the total QSO points times total multiplier (US states + VE provinces + DX countries).

Mail log and paper summary sheet (indicating CW or SSB on the envelope) to: 160 Metre Contest Director, David Thompson K4JRB, 4166 Mill Stone Court, Norcross, GA 30092, USA, by 28 February (CW) or 31 March (Phone).

Summer VHF-UHF Field Day

John Martin VK3KWA
9/10 January VK6: 0400z Sat - 0400z Sun.
Other Call Areas: 0200z Sat - 0200z Sun.

Because of the trial Spring VHF/UHF Field Day, the 1999 event will be called the Summer VHF-UHF Field Day and will be run on the weekend of 9/10 January, 1999. The Ross Hull Contest will be in progress at this time and all contacts can be counted for both contests.

Duration: (see above)

Sections and Awards: **A.** Portable station, single operator, 24 hours; **B.** Portable station, single operator, any six consecutive hours; **C.** Portable station, multi-operator, 24 hours; **D.** Home station, 24 hours. The overall winner will be the highest all-band scorer in Section A.

General Rules:

You may work stations within your own locator square. Operation may be from any location, including more than one location. Repeater, satellite and cross-band contacts not allowed. A station is portable only if its equipment, including antennas, is transported to a location other than the normal home location of its operator.

No contest operation is allowed below 50.150 MHz. Call on .150 and QSY up. Recognised DX calling frequencies must not be used for contest exchanges or liaison. One callsign per station. If two operators set up a joint station, they may operate as multi-operator single callsign, or as separate single operator stations. Stations with more than two operators must enter Section C.

Exchange: RS(T) + serial number + your four-digit Maidenhead Locator.

Repeat Contacts: Stations may be worked again on each band after three hours. If a station is moved to a new locator square, repeat contacts may be made immediately. If a station moves back to a previous locator square, the three-hour limit still applies to stations worked from that square.

Scoring: For each band, score 10 points for each square in which your station operates, plus 10 points for each locator square worked, plus one point per contact. Multiply the total by band multiplier as follows:

6m	2m	70cm	23cm	13cm	higher
x1	x4	x7	x10	x13	x16

Total scores for all bands.

Sample Scoring Table:

Band	QSO Points		Locator Points		Multiplier		Total
2 m	120	+	280	x	4	=	1600
70cm	60	+	140	x	7	=	1400
Grand Total							3000

Logs for each contact must show time UTC; frequency; station worked; exchanges; points claimed.

Summary Sheet should contain: names and callsigns of all operators; postal address which applies to the callsign used; station location and Maidenhead Locator; section entered; scoring table; signed declaration that the station was operated within the rules and spirit of the contest and that the Contest Manager's decision will be accepted as final.

Send logs by mail to: Manager, VHF-UHF Field Day, PO Box 2175, Caulfield Junction, VIC 3161 by Monday, 25 January, 1999. Early logs would be appreciated.

Japan International DX Contest 1999

LF CW 2200z 8 Jan - 2200z 10 Jan 1999
HF CW 2300z 9 April - 2300z 11 April
Phone 2300z 12 Nov - 2300z 14 Nov

Object is to work as many JA stations + JD1 islands as possible.

Bands: LF CW 160/80/40; HF CW 20/15/10; Phone 80 - 10 (no WARC).

Categories: Single operator single/multi-band high power (more than 100 W o/p); single operator single/multi-band low power (less than 100 W o/p); multi-operator; maritime mobile.

General: Operate for maximum 30 hours only and show rest periods in log; single op must perform all tasks himself; single op may change bands at any time; multi-op must remain on band for at least ten minutes; multi-op may transmit on another band only if new station is a multiplier; ops may use spotting networks.

Exchange RS(T) plus CQ Zone number. JAs will send RS(T) plus Prefecture number (01 - 50). **Score** on 160 m four points; 80 m two points; 40/20/15 m one point; 10 m two points. **Multiplier** is total JA prefectures + JD1 islands worked (possible 50 per band). Multiply total points by total multipliers.

Logs (one per callsign) must show times in UTC; exchanges; multiplier first time worked; duplicate QSOs shown as no points; rest periods clearly marked; use separate sheet for each band. **Send logs** and summary sheet to JIDX Contest, c/o Five-Nine Magazine, PO Box 59, Kamata, Tokyo 144, Japan, by 28 February, 31 May or 31 December. Logs may be submitted on 3.5 inch disk in ASCII with summary sheet or by e-mail. For instructions send e-mail to *jidx-info@ne.nal.go.jp* with command *#get jidxlog.eng* or *#get jidxlog.jpn* .

REF (France) DX Contest

CW 0600z 30 Jan - 1800z 31 Jan
Phone 0600z 27 Feb -1800z 28 Feb

Object is to work as many French stations as possible, including FG, FH, FJ, FK, FM, FO, FP, FR, FS, FT, FW, FY, TK, TM, and TO.

Categories: single operator; multi-operator one Tx; SWL.

Bands: 80 - 10 m (no WARC).

Exchange RS(T) plus serial number (French stations will send RS(T) plus department number or prefix). **Score** one point for stations in same continent; three points for other QSOs. **Multiplier** on each band is number of departments and overseas prefixes. **Final score** is total points by total multipliers. **Awards** to highest scorer each category each DXCC country. **Send logs** by mail to REF Contest, BP 7429, 37074 Tours Cedex, France by 15 March (CW) or 15 April (Phone). **ar**

How's DX?

Stephen Pall VK2PS
PO Box 93, Dural NSW 2158

Thank You and Goodbye

After almost seventeen years of radio amateur public life, I am very sad to advise you that this is my last *How's DX?* column.

A time comes in everybody's life when one has to change direction. That time has now arrived for me.

It is with a sad and heavy heart that I say thanks to all of you, the readers of this column. Thank you for the many encouraging letters which you sent me over the years. Thank you for your very solid support many years ago, when the future of this column was under threat, and thank you for your assistance and willingness to send me amateur news, comments, suggestions, information, DX news, hard copies of packet and Internet news, photographs and QSL cards.

Without your help this column could have not existed. Thank you for your phone calls, from Darwin and from Perth, from every capital city and from many of the small towns of our great country.

At the end of my monthly column I always acknowledged the callsigns of those who assisted me in compiling the column in that particular month. To list now every callsign of those who assisted me in the past would probably fill pages of this magazine.

Yet, I still feel that some calls should be mentioned.

The late Percy Anderson VK4CPA and the late Ken Stevens VK5QW were solid supporters of this column, in more ways than just letters. I wish to say a special thank you to my friends VK2EFY, VK2KCP, VK2KFU, VK2TJF, VK2XH and VK5WO who regularly supplied me with hardcopies of packet and Internet DX News bulletins.

One Australian amateur, whom I do not want to embarrass by mentioning his callsign, even paid for many years the subscription to several overseas DX Magazines which arrived regularly at my doorstep. Another DXer regularly sent me photocopies of his logs for the interesting QSOs section of this column.

Why did they do it? Why did I write the column? Amateur radio is considered to be a hobby to be enjoyed by all those who practice it. One soon discovers that the biggest joy in amateur radio and DX is in the giving and sharing of knowledge of the hobby with others.

I enjoyed the hobby and the time I spent in writing this column for you, sharing with you all the news and happenings in the DX world. It enabled me to make many new friends over the air and by correspondence, friends whom I will probably never meet in person.

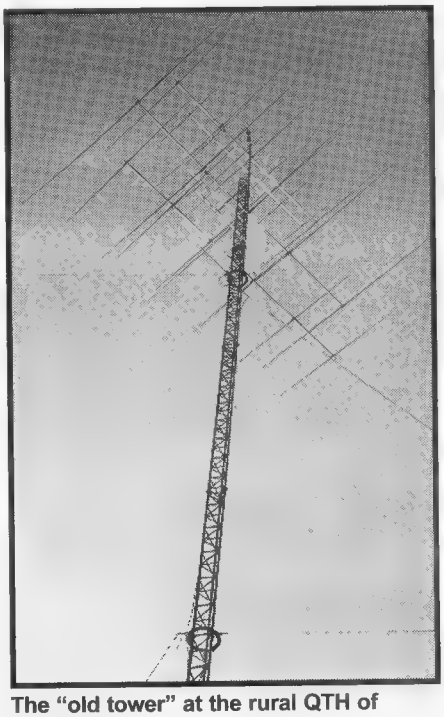
I hope that out there among you DXers there is somebody who will volunteer to take up the "DX Pen" as the new columnist. I feel that this column must not die, will not die, and will survive the difficult times which lie ahead.

Whilst I will not write this column in the future, I still intend to write DX orientated articles for *Amateur Radio*. I hope you will support me in this endeavour.

It is now December, the end of the year and the time for festivities. I wish you all the joy of Christmas and the joy of giving. I also wish you a happy and healthy New Year, good propagation and the thrill of working a new country or a new island. Thank you again. I will miss you all!

Campbell Island - ZL9CI

The DXpedition team of 11 members will sail from Wellington, NZ on 1 January 1999 in a 125 foot vessel named "Braveheart" which was used previously as a Japanese research vessel.



The "old tower" at the rural QTH of Jakko OH1TX.

The voyage will take approximately six days. It is expected that the six stations will be on the air around 10 January, depending on the weather which can be unpredictable at any time. The last QSO will take place around 24 January. The team will operate from 160 to 6 m, on SSB, CW, RTTY and maybe SSTV.

Amsterdam Island - FT5Z

An FT5ZH DXpedition press release issued by Jeffrey WA6KBL states that the DXpedition to Amsterdam Island is on schedule, and there are no problems so far.

The equipment was tested, the antennas assembled, checked and disassembled, and everything was well packed to depart from Marseilles on a ship to Reunion Island on 5 October. The operators prepared their personal belongings and departed by plane for Reunion early in November.

They plan to visit several of the resident Reunion operators during their five day stay on Reunion. They will supervise the loading of the equipment aboard the vessel "Marion Duffresne".

En-route to Amsterdam island, the ship will stop at both Crozet and Kerguelen but the DXpedition will not operate from these islands.

They planned to arrive on Amsterdam Island on 25 November and expected to have all antennas erected and operational on 27 November. They will operate around the clock as much as they can until their departure on 25 December. They will have a much shorter journey back and expect to arrive home in Lyon very late on 31 December.

All QSLs must be sent direct to the F6KDF Radio Club with one "green stamp" or two IRCs with reply envelope. The address is: Rhone Alpes Gendarmerie, 292 Route de Genas, Quartier Raby, F-69677 Bron Cedex, France. Bureau cards will also be accepted but it will take a long time before the reply comes.

Pratas Island - BV9P

Operating from Pratas Island is difficult because of the political sensitiveness and the military importance of the island.

Over the past few months there have been rumours that an amateur radio activity is likely to happen. The latest prediction was for October; however, it did become a reality in mid-November for seven days.

The twelve operators, most of them well known Taiwanese DXers, also included JA1BK Kan, KU9C Steven, OH2BH Martti and the first YL ham on Pratas, XE1CI Nellie. The usual DX frequencies were used from 160 to 10 metres, including WARC, on CW, SSB and RTTY. QSL to KU9C Steven M Wheatley, PO Box 5953, Parsippany, NJ O7054, USA.

Myanmar - XZ

A few days after the Pratas BV9 activity, another restricted country opened up for amateur radio.

A press release issued by Dan Brown NA7DB advised that XZ1N would return to the airwaves from 21 November 1998 through to 6 December 1998. The activity will take place from Yangoon, Union of Myanmar.

Most of the team are members of the Central Arizona DX Association which includes some of the members of the 1996 activity. It will be a multiple station operation from 160 to 10 m, including the WARC bands, on CW, SSB and RTTY. There will be entries in the CQ WW CW contest and the ARRL 160 m contest.

Members of the team are NA7DB Dan, WA6CDR, K6RKE Darryl, AF7O Sally, KM5EP, WY7K, N7RZD and N7DB Mike. QSL direct via W1XT Robert M Myers, PO Box 17108, Fountain Hills, AZ-85269, USA, or via the Bureau.

Eritrea - E3

Zoli HA5PP re-appeared on the air, not from Yemen 7O as everybody expected him to, but from an equally rare country, Eritrea.

He operated from the Hotel Ambassador, Asmara as E30HA on SSB with a TS-50 and a 30 m long wire antenna. As at the beginning of November it was reported that he made 7000 QSOs. He planned to return to Eritrea to take part in the CQ WW CW contest. QSL via HA5YPP, PO Box 1157, Budapest, H-1245, Hungary.

Jacky ZL3CW (formerly F2CW) was also in Eritrea in a professional capacity and operated, when time permitted, with the callsign E31AA. Jacky reported that he received a letter from the Ministry of Transport and Communications saying that amateur radio is allowed in Eritrea from 21 September 1998, but the cost of an individual licence is $US500. QSL via ZL3CW Jacques Calvo, PO Box 593, Pukekohe, Auckland, l800, NZ.

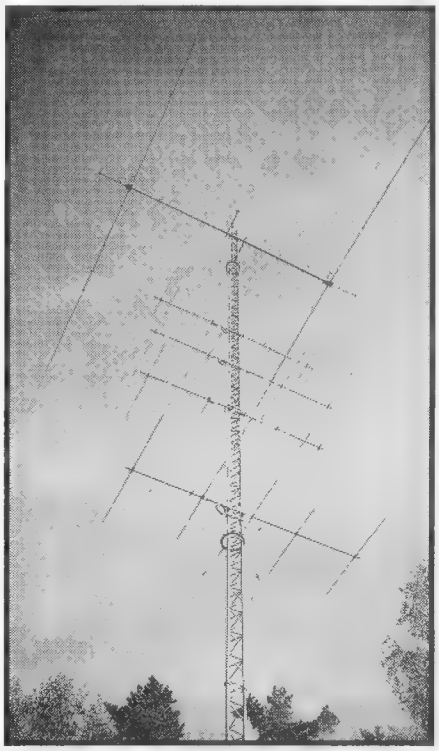
The latest group to visit Eritrea was the "Space A DX Group" between 5 and 17 November. The callsigns were allocated when they arrived in Eritrea starting with the call E30AA and up.

The team of ten amateurs, Bruce WD4NGB, Joe KO4RR, Vance N5VL, Elvira IV3FSG, Max I8NHJ, Michel EA8AFJ, Slavek OK1TN, Mike N9NS, Larry NF6S and Franz DJ9ZB operated three stations on all bands, 160 to 6 m on SSB, CW and RTTY, and used standard DX frequencies operating split. They planned to use only one call, unless they are told to use the individual callsigns for which they each paid $US500. Direct QSLs will go to INDEXA c/o K4JDJ, 556 Babbtown Road, Suffolk, VA-33434, USA. Bureau cards should be marked E30xx via K4JDJ. Insert correct suffix in place of xx.

Finn Antenna Farms - OH1TX

I had an enjoyable short visit from Jakko OH1TX in Sydney late in October. Jakko is well known among DXers for his strong signals and is heard with a good signal strength in Australia.

During our discussion the matter of towers came up as an interesting topic. Many of us have seen pictures and QSL cards and had contact with Finn amateurs talking about their "weekenders" in the country and talking about their antenna towers which, by our standards, seem to be the "ultimate" dream of an HF amateur radio DXer.



The "new tower" at the rural retreat of Jakko OH1TX.

I learned a few interesting facts about the Finn radio amateurs. Finland lies in the north eastern part of Europe, between Russia to the east and the Gulf of Bothnia in the west. It has a population of almost five million people in an area of 338,127 square kilometres. Its size is about 42% of New South Wales, which has an area of 801,600 square kilometres.

In the past, most of the Finnish population lived in the country on food producing farms scattered among extensive forests and many thousands of lakes. Due to industrialisation of the economy, the farming population moved slowly into the towns and cities, and many of the older generation passed away.

This is the reason why many Finn city dwellers have a "farm" or "weekender" in the country by way of inheritance from parents or relatives.

Jakko OH1TX, who has two other calls, OH0TX and 7J1ATX, is also the proud owner of such a farm, on which he produces no food, just amateur antennas. The enclosed pictures tell the story.

Jakko has two towers. The "old tower" is 36 m high and is a rotating guyed tower, manufactured by OH8QD from Sotkamo. It has four mono-band Yagis for 20, 15, 10 and 6 metres.

The "new tower" is 45 m high (147 feet). It is also a rotating tower made of hot galvanised steel. 0n the top there is a two element linear loaded 75/80 m homebuilt Yagi on an 11 metre boom. Each element of this Yagi antenna is 30 m long.

Underneath the 80 m Yagi there are five over five element 15 m and 10 m Yagis. The third picture is a view from the top of the tower. It shows the end of the 11 metre boom and one of the elements.

Jakko's rural QTH is about 40 km from his home town Turku on the Baltic Sea.

Now here is another interesting fact about the situation in Finland. In answer to my question as to whether he had to submit a development application, building permit application, engineer's drawings and calculations and other requirements to the local authorities to get permission to erect the tower and the antenna, Jakko stared at me and gave a simple answer. *"Why? There is no need for a building permit. The towers are in a rural area and are officially classified as a temporary construction, because they can be dismantled."*

Now you know, why the Finns have such magnificent antennas on those high towers.

Rowley Shoals September 1999 - Update

I reported this IOTA DXpedition in the November issue of *Amateur Radio*. I have had some requests for Malcolm VK6LC's e-mail address. Here it is: *vk6lc@iinet.net.au* .

The internet Web page manager is Maurizio Bertolino and the Website is (new reference) *http://www.425dxn.org/dxped/vk6lc/* .

The original budget estimate was $AUS20,000 and it was intended to land 10 operators with dual stations on to the Shoals. This has been now revised with a shared boat charter for $AUS10,000 which will land four operators on the Shoals. The duration of the expedition will be approximately five and a half days, starting Tuesday, 21 September 1999.

The RSGB IOTA Committee is one of the early major sponsors of the DXpedition with a special loan of a Yaesu FT-900AT

transceiver and power supply. Further early sponsors are the Diamond DX Club, Italy; Waasland Radio Club, Belgium; G3NUG, I1HYW, ON4XL, ON4IZ, I1SNW, G3ALI and VK3ATN.

One hopes that, as time passes, the number of sponsors will grow. The above Web page is constantly updated as changes or news occur. Further update news will also appear from time to time in other DX magazines. QSLing will be direct from Gianni Varetto, I1HYW, PO Box 1, 10060, Pancalieri, Torino, Italy.

Future DX Activity

* **Nigeria - 5N.** Bogdan SP5CPR is on the air again until the middle of December as 5N3CPR. He prefers cards via the QSL Bureau to his home call SP5CPR.

* **Madagascar - 5R.** Andre F6AOI, Alain F6BFH and Bernhard F9IE will be active from Madagascar until 7 December. Ake SM7CIP is already there and on the air as 5R8FU, and is currently putting up antennas for 160, 80 and 40 metres. He was heard on 28485 kHz around 1315 UTC. QSL via SM0DJZ.

* **Isle of Man - GD4.** Steve G4UOL will be active as **GD4UOL** from 20 November until 4 December. QSL via the GD QSL Bureau.

* **Dominican Republic - HI8.** The Bavarian Contest Club will be on the air as **DL1HCM/HI8** from 24 November until 6 December, mainly on CW taking part in the CQ WW CW DX Contest on 28/29 November. QSL to DL1HCM via the Bureau or direct to Mike Peters, Moislinger Allee 72, 23558 Luebeck, Germany.

* **Kiribati - T3.** Two German amateurs, Karl DL1VU and Gerhard DJ5IW, will be active in the area from Canton Island as **T31AF**, from western Kiribati as **T30CT**, and from Banaba as **T33VU**. Other planned activities depend on transportation facilities. All QSLs via the Bureau for T32IW, via DJ5IW for T32VU, all others via DL2MDZ.

* **France - TM5.** Look out for the **TM5CW** special CW contest call from 27 November until 7 December.

* **Cocos-Keeling - VK9VC.** Hide JM1LJS will be on air from the 26 December until 2 January as **VK9CL** on 80 to 10 metres. His new direct QSL address is: Hideyuki Kai, 4-22 15 Takata Higashi Kohoku-ku, Yokohama City 223-0063, Japan.

* **Lord Howe - VK9L.** The five member DX group under team leader Nick VK2ICV was active from here from 22 November until 1 December. Their main activity was during the CQ WW CW Contest with two stations on all HF Bands. The callsign was **VK9LX** and QSL goes via VK2ICV Nick Hacko, PO Box 730, Parramatta NSW 2150.

* **Reunion Island - FR.** On 18, 19 and 20 December a group of amateurs will be active from "Piton des Neiges", an island off Reunion with an altitude of about 3069 metres. A special call **TO150** will be used by ten operators using CW, SSB, and RTTY on 160 to 2 metres celebrating the 150th anniversary of the abolition of slavery on Reunion Island on 20 December 1848. A special QSL card will be available.

* **Congo - TN.** Hazel AL7OT is back in the Congo, after many years of absence, with the callsign **TN7OT**, doing missionary work. Her home is in Soldotna, Alaska. She operates 100 watts SSB with a dipole antenna. Although she is using amateur radio to contact friends in Soldotna, I suspect, as happened a few years ago, she will be inundated by DXers who want to contact her as a new country. QSL via home call.

* **Bahamas - C6.** Abaco Island, IOTA NA-080, will be activated from 8 to 16 December by five USA operators with the special call **C6DX** from 160 to 6 metres. The main focus of this trip will be the ARRL 10 metre contest, and maybe propagation possibilities on 6 and even on 2 metres. QSL via WZ8D to John Walker, 1930 Meredith Ln, Loveland, Ohio, 45140-7216 USA.

* **Bolivia - CP6.** Mats LU9AY will be active as **CP6/LU9AY** from 25 November until 6 December. QSL to his new home address, 670 Honorio Pueyrredon, Zip 1405, Buenos Aires, Argentina.

* **Kerguelen - FT5X.** Helios **FT5XN** will be active again in January 1999. QSL to F6PEN.

* **Indian Ocean - VK9X - VK9C.** Charlie W0YG, W8UVZ and K9FD will be active between 6 and 13 February 1999 as **VK9XX** from Christmas Island and from 13 to 20 February as **VK9YY** from Cocos Keeling Island. They will concentrate on 80/160 metres, the WARC bands, RTTY and some 6 m activity if there is an opening.

* **Palau - T8.** Dave KJ9I, Rudolph NF9V, and John NZ9Z will be on the air from 8 to 17 December as **T88II**. QSL via KJ9I David Schmocker, N 7298 Country Trunk Highway, F. Oconomowoc, WI-53066-9040, USA.

Interesting QSOs and QSL Information

* **GD4PTV** Brian - 21300 - SSB - 1230 - Sep. QSL via Brian W Brough, Kimmeragh View, Ballacorey Road, Ramsey, Isle of Man, 1M7 4AW, United Kingdom.

* **8Q7US** Yu - 28479 - SSB - 0527 - Sep. QSL via JR2KDN Y Yoshida, Kato Building, 4F, 529 Rokugaike, Kita, Nagoya, 462 Japan.

* **6W1RD** Mary - 14154 - SSB - 0825 - Sep. QSL via PO Box 3749, Dakar, Senegal, Africa.

* **TL9A** Alex - 18069 - CW - 0605 - Sep. QSL via PA3DMH, Alex van Hengel, Schoener 85, 2991 JK Barendrecht, Netherlands, Europe.

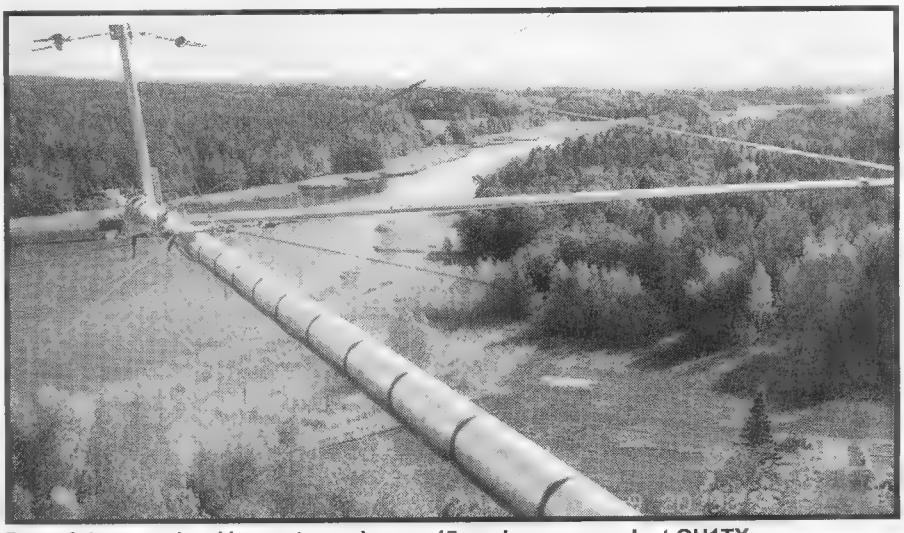
* **JW9OI** Olav - 14016 - CW - 0948 - Sep. QSL via LA9OI, Olav Gurendal, Kolsaastien 20, N-1352, Kolsaas, Norway.

* **A35ZL** Manfred - 14024 - CW - 0707 - Oct. QSL via DJ7RJ, Manfred Przygode, Hoisdorfer Landstrasse 50, D-22927, Grosshansdorf Germany.

* **CN8GI** Ahmed - 14164 - SSB - 0553 - Oct. QSL via the Bureau or direct to: Ahmed Boudda, PO 6543, Rabat 10101, Morocco, Africa.

* **YM75DS** Selim - 14205 - SSB - 0530 - Oct. QSL via WA3HUP, Mary A Crider, 2485 Lewisberry Rd, York Haven, PA-17370, USA.

* **ZP5WBM** Luis -14250 - SSB - 0601 - Oct. QSL via Luis Albero, Alvarez R, PO Box 512, Asuncion, Paraguay.



Part of the massive 11 m antenna boom, 45 m above ground, at OH1TX.

* **PJ9B** - 14171 - SSB - 0540 - Oct. QSL via K2SB, Stephen P Branca, 202 Minnetonka Rd, Hinella, NJ-08083, USA.

* **C4A** - 14175 - SSB - 0636 - Oct. QSL via 9A2AJ, Tomislav Polak, Brace Domany 6 19, HR-10000, Zagreb, Croatia, Europe.

* **CQ9K** - 7092 - SSB - 0727 - Oct, QSL via CS3MAD, Associacao de Radioamadores Madeira, Edif Prt Civel, Quinta Magn - P-9000, Ilha da Madeira, Portugal.

From Here and There and Everywhere

* **New Zealand - ZL4.** Ed K8VIR/ZL4 is back again in New Zealand. However, he gave W8WC as his QSL manager.

* **Juan Fernandez - CE0.** Brian VK5FV reports that he received a direct QSL reply within five weeks from **CE0ZIS** Eliazar Jose Pizarro Rojas, PO Box 1, Juan Fernandez Island, Chile.

* **DX Association.** The International DX Association supports many DX operations in countries having limited or no amateur radio activity. Membership fee of the association for a year is $US15.00 and should be sent to Box 607, Rock Hill, SC-29731 USA. Besides helping the DX fraternity you will also receive a quarterly newsletter.

* **Martinique - FM.** If you worked Josep **FM/EA3BT,** or Nuria **FM/EA3WL,** and/or **TO8B** during the CQ WW SSB Contest, send your cards to Josep Gibert, Col-Regi, 1, 08800, Vilanova i la Geltru, Spain.

* **Andaman and Nicobar Islands - VU4.** It was reported by Ted W2FG that Nat **VU2NTA** is making another attempt to try to obtain permission for a VU4 activity. Nat said that there are many difficulties with the application and Government sources are not very supportive of the application. Nat further states that non-Indian operators will not be allowed under any circumstances.

* **Tokelau - ZK3.** Ron ZL1AMO did not operate as ZK3RW from the island due to transport problems.

* **Christmas Island - VK9X.** Jack HB9TL and Erwin HB9QR were active during October and November from Cocos-Keeling as **VK9CTL** and as **VK9CQR**, and from Christmas Island as **VK9XTL** and **VK9XQR**. QSL for both activities to HB9QR Erwin Fink, Toedistr 7, CH-8572 Berg, Switzerland with an SAE and two IRCs or two "green stamps" (postage is expensive from Switzerland).

* **Latvia - YL.** Latvian amateurs used the special prefix YL80 in October and November, celebrating the 80th anniversary of the foundation of the Republic of Latvia on 18 November 1918.

* **Arabian Nights - JY.** As propagation improves, old DX Nets re-appear. Zedan **JY3ZH**'s "Arabian Night Net", which is active each Friday, reappeared at around 14251 kHz and was quite audible in NSW around 0630 UTC. Quite a number of African and middle-eastern stations checked in, among them Dr Sid **ST2SA** who had quite a strong signal. His QSL address is Dr Sid Ahmed Ibrahim, PO Box 1533, Khartoum, Sudan, Africa.

* **Canada - Special Prefixes.** Canadian amateurs are commemorating the 75th Anniversary of the first two-way transatlantic exchange between amateur radio operators. Between 1 and 31 December they will use the following special prefixes: CG1, CG2, CF2, CG3, CF3, CG4, CG5, CG6, CG7, CG8, CG9, CJ1, CJ2, CK1 and CK2.

* **Equatorial Guinea - 3C.** Alan **3C5I** advises that his correct QSL address is Alan Isaachsen, c/o Mobil Equatorial Guinea, PO Box 139082, Dallas, TX-75313, USA.

* **ITU Special Event.** W0AIH has activated **N98ITU** in connection with the ITU conference which took place from 12 October to 6 November in Minneapolis, USA.

* **Yukon - VY1.** The special event station **VY1A** celebrated, during October and November, the 100th anniversary of the Yukon Territory "Gold Rush". QSL via KB5IPQ.

* **South Shetland - LU1.** The Argentine Antarctic Jubany Base is located at Mayo Island (King George Island, lat 62° 14' south, long 58° 38' west) and is on the air with the callsign **LU1ZJ**. QSL via Direccion Nacional del Antarctico, Arrito 1248, Buenos Aires, Argentina.

* **St Helena Island - ZD7.** Desmond **ZD7DP** on St Helena Island has a new QSL Manager, W1ZT, who has the logs for all QSOs. His address is George Johnson W1ZT, 30 Washington St, Beverly, MA-01915, USA.

* **Kiribati - T3.** HA9RE and HA8IC are planning to be active between January and 15 March on CW, SSB and RTTY, 160 to 10 m.

* **QSL Manager.** Gianni Varetto **I1HYW**, PO Box 1, 10060, Pancalieri, Torino, Italy is the QSL Manager for the following stations (direct only): **UA0X/EK250RA**, **4K4/EK250RA**, **YB5NOC**, **N7UJN/A** (NA-169), **R3RRC**, **4K3RRC**, **4K4RRC**, **4K5RRC**, **4K4/UA9OPA**, **4K3WQ**, **4K3GW**, **4K3/RW3GW**, **UW1ZZ/A**, **RW9OWM/0**, **RZ1AZO/1**, **4K3/RA3YG**, **JI6KVR/6**, **LU3CQ/D**, **AZ1D**, **VK6ISL**, **VK8ISL**, and **TI2LAK/HP4**.

* **QSL Manager.** Koos **KK3S** advises that he is QSL Manager for **TA2PE**, **YI1FLY**, **ZS6Y**, **ZS9F**, and **YI1HK**. He is not the QSL manager for TU2XZ, WP2Z and YI0EB. Koos' address is Koos Berrevoets KK3S, 160 Valley Road, Windsor, PA 17366-8904, USA.

* **QSLs Not Acceptable by the Bureau.** Carl **W3HC** (formerly W3HCW) has directed the US W3 QSL Bureau to destroy all the cards which they receive for him as QSL manager. He is a QSL Manager for many DX stations, but he only QSLs direct!

QSLs Received

* **H40AA** (2 m - OH2TA), * **CY9AA** (3 m - K7BV), * **N6MZ/KH9** (2 m - N4XP), * **9H0A** (3 m - LA2TO),* **ZK2CK** (3 m - HB9BCK).

Thank You Again

Many thanks to all my supporters during these many years. Your support made this column possible. For this month special thanks are due to VK2EFY, VK2KFU, VK2TJF, VK2XH, VK3DID, VK4LV, VK5FV, VK5WO, VK6LC, KK3S, INDEXA (International DX Association), *Ohio/Penn DX Bulletin*, *QRZ DX*, *The 425 DX News*, *The DX News Sheet*, *The DX News Magazine* and the *DX Magazine*.

(continued from page 7)

and COM 2 is dedicated to packet, COM 3 to Internet and Com 4 to SSTV or Contesting. But a quick disconnect of COM 2 was simple.

It worked. I sat reading W1AW on 14 MHz with no problem. The interface would probably work with most other programmes such as HAMCOM, CW500, etc.

The transmitter part is also easy, but perhaps we should leave that for another issue. In the meantime enjoy other people's telegraphy.

My sincere thanks to Trevor VK2TT who was part of the inspiration to build the decoder.

NEW AR ADDRESSES

Please note that the postal and e-mail addresses for all material for Amateur Radio magazine, including Hamads, have changed!

So have the telephone and fax numbers!

See the new details in column one on page 1 of this issue!

Spotlight on SWLing

Robin L Harwood VK7RH
5 Helen Street, Newstead TAS 7250
Tel: 03 6344 2324
E-mail: *robroy@tassie.net.au*

Budget Cutbacks

Well, another year is rapidly coming to a conclusion. There have been several developments this year, with further cutbacks in budgets causing the inevitable reduction in programming or services.

For example, the Swiss and the Chinese have terminated their broadcasting agreement after the Swiss transmission facilities were severely reduced to a solitary sender. Berne now is heard via Germany.

Radio France International supposedly cut back their programming to one sender per region yet I am hearing them still on several frequencies. Presumably they are targeting different regions.

Digital Technology

Also, this year we have had further experiments with digital technology over HF. Recent tests were carried out from Palau which is a former US trust territory off the Philippines. However, receiving technology has not been produced in mass quantities to take advantage of any possible broadcasts.

Continuing rivalries exist over which system should become standard. It is felt by some analysts that HF digital broadcasts would not be viable economically as other delivery methods have gained more of a foothold such as the Internet and satellite television sub-carriers.

News Programs

Many listeners over short-wave primarily tune in the latest news and current affairs.

To cater for this continuing demand, both the BBC World Service and the VOA instituted so-called "rolling" news formats. The VOA "News Now" program replaced existing VOA English programs or absorbed them into narrow program slots.

There has been some criticism of the presentation and production of the latter, yet the news is not something you can control. It just happens.

The BBC World Service did announce they, too, were going to introduce a second stream devoted to news and current affairs, but it has not started yet. A date is expected to be announced very soon.

Tune to 13 Metres

The higher frequencies have burst into life as the number of sunspots dramatically increase. Users are increasingly going higher in frequency and are being rewarded with good propagation and excellent reports.

The 13 metre broadcasting segment between 21450 and 21800 kHz is producing some outstanding signals in our evening hours. For example, I am hearing Radio Ukraine International from Kiev on 21510 between 0800 and 1300 UTC to Australasia and Asia. It is in Ukrainian mostly, with English taking up the final hour.

On 21590 kHz there is Radio Exterior Espana from 0930 UTC from Madrid. On 21745, Radio Prague from the Czech Republic is heard in English between 1000 and 1030 UTC with very good signals.

Radio Austria International is in German, French and English on 21765 kHz from 0900 whilst Norway can be heard on 21800 with Norwegian and Danish.

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·4 pole-9 pos.ceramic.....$49
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·300 pF/1500V.....$60
·2 pole-11pos. ceramic (2Kw).....$39
·4 pole-11 pos. ceramic (2Kw).....$59
·6 pole-11pos. ceramic (1Kw).....$36
·2 pole-5 pos. ceramic (1Kw).....$25
·SWR Meters-moving coil meter.....$10

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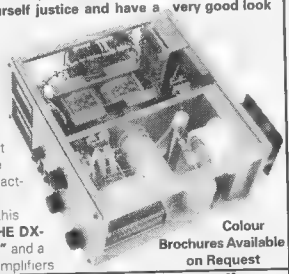

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EMTRON amplifiers have received great admiration and respect at this years "World's Greatest" Hamvention at Dayton Ohio, which has been followed by large orders from the USA.

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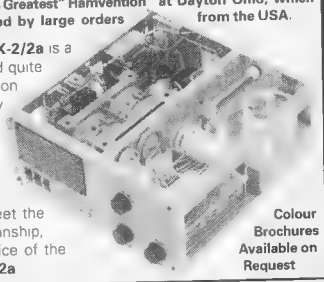

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TE-43 3-band 4-ele. beam.....$850

Four Band Beams
TE-34 3-ele beam, 14-21-28MHz, 1-ele on 7 MHz.....$795
TE-44 4-ele beam, 14-21-28MHz. 1-ele on 7 MHz.....$930

27MHz CB Dual Drive Beams
TE-26 6-band rotatable dipole..$450
TE-14 4-band rotatable dipole...$325
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TE-26 2-ele beam, 14-21-28MHz, 1-ele on 10-18-25MHz.....$780
TE-46 3-ele beam, 14-21-28MHz, 1-ele on 10-18-25MHz.....$890
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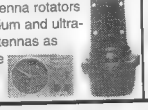

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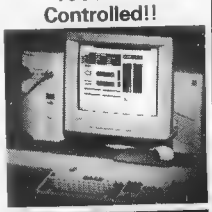

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EMTRONICS

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Oddly, there is a station on 21850 kHz and it is, surprisingly, the Vatican Radio broadcasting to Latin America. However, the levels do vary as, I think, beam headings are changed for different target areas. It is not a harmonic. A short 10 minute English newscast is heard at 1120 UTC on weekdays. On Sundays, at 1100 UTC, there is a broadcast of the Pope reciting the Angelus in St Peter's Square. It lasts for about 10 minutes.

Merlin Network

Tuning around lately, I have frequently come across a station broadcasting pop and disco music. This is from the Merlin Network in London.

You will recall that Merlin manage all the senders in the UK and overseas for the BBC World Services.

Merlin has now gone into broadcasting in their own right after a test period when they were on-air each Wednesday from 1800 to 0600 UTC. They are on 24 hours a day, seven days a week from transmitters in the UK, Ascension Island, Singapore and Thailand.

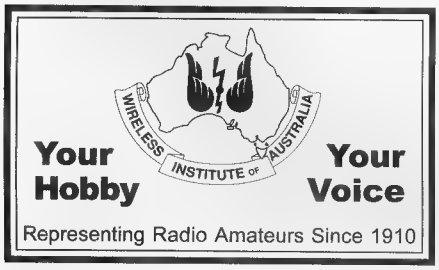
There are also reports that they are also being broadcast from Sackville in Canada, yet this would be strange as Merlin does not operate the Sackville site. Perhaps it is part of one of the numerous exchanges Merlin has with other international stations using UK and Singapore.

Merlin's programs seem to come from commercial and independent producers in the UK, such as Radio Caroline. Some inexperienced monitors have been fooled into thinking that is the identity of the station after hearing that ID. The best frequency locally to hear Merlin is 21550 kHz from 1000 UTC.

Spurious Signals

As the propagation increases, so does the number of spurious and harmonic signals from lower frequencies. Many of the technical departments would not be pleased to hear that these are being heard.

For example, I did hear a station on 19060 kHz which happens to be a future broadcasting allocation. However, as the Chinese speaking program was clearly from America, I decided to ascertain if it was a harmonic. Sure enough, the same program was on 9530 kHz and I now know that it is the VOA from their Philippine relay site.



This same location is also responsible for harmonics on 14240 and 14250 kHz at odd times. Intruder Watch Co-ordinators have lately been fielding reports on them. It will be interesting to try and hear harmonics above 30 MHz. They are there when the propagation is very good.

Harmonics

Talking of harmonics, there was a very red faced Canadian ham who started getting reports of his 80 metre CW transmission around 2100 UTC on 24 October.

His third harmonic came out exactly on the frequency of the rare transmission of Radio St Helena on 11092.5 kHz. I think he may have had more listeners than the actual signal from the South Atlantic island. Signals again were patchy and they did not make it to this region.

Passport to World Band Radio 1999

I received my copy of *Passport to World Band Radio 1999* today from America. This edition has articles on the troubles of broadcasting from Liberia, Sri Lanka and Bangladesh.

The book is clearly designed for novices interested in using World Band radios for the first time. It is aimed clearly at the consumer. There are receiver reviews and an extensive hour by hour guide to International radio. There is also quite an extensive frequency database in the back of the book. However, you will probably need a magnifying glass to find the information. The book is really written for North American audiences.

World Radio and Television Handbook

The World Radio and Television Handbook recently had a change of publishers and editors. For many years this book was regarded as the "Bible" of Radio and Television stations. However, it was more like a telephone directory and with about the same appeal. I prefer *Passport to World Band Radio*.

Klingenfuss has also entered the ring with the *Klingenfuss Shortwave Frequency Guide* which will be available about the middle of this month. He also has a CD-ROM of Frequency Listings for both Utility and Broadcasting Stations.

If you are interested in any of the above publications, I recommend that you contact Padula Books at 404 Mont Albert Road, Surrey Hills VIC 3127; telephone 03 9898 2906.

Prices will vary, depending on when they come in. I obtained my *Passport* direct from Grove Enterprises in the States.

Well, that is all for this year. Until next time the very best of listening and 73. **ar**

Pounding Brass

Stephen P Smith VK2SPS
PO Box 361 Mona Vale NSW 2103

I cannot believe it's Christmas already. Where has the year gone? It seems I was saying the same words only a few weeks ago!

I would like to say thank you to the readers who send me letters, articles and requests for information. It just goes to show that Morse is still very much alive and well, and will be around for a long time.

I have decided to hold back on the article intended for this issue, as I had overlooked some important information and did not want to publish it as it was not 100% correct. I apologise for this oversight.

I would like to take this opportunity to wish you all a very merry Christmas and a prosperous New Year. **ar**

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Another Sputnik Replica in Orbit

As I write this column, a new Sputnik replica has just been launched. I have been listening to its signal on two metres. The recorded messages came through loud and clear. It had only been launched a matter of hours earlier and was flying along with MIR.

I was having lunch when I noticed that MIR was coming into view. On connecting to the PMS, I downloaded a message from Miles Mann WF1F regarding the launch of the second Sputnik replica. My tracking system indicated a Doppler shift of about -3 kHz and, on re-tuning to 145.809 MHz, the signal from the little satellite was heard at S9. Its batteries are designed for a 30 day life so perhaps it will still be transmitting as you read this column.

There is yet another Sputnik replica on board MIR and it is anticipated that it will be launched sometime early next year as the MIR spacecraft comes near the end of its mission. These Sputnik replica exercises have created a lot of interest in amateur ranks but their prime purpose has been educational. They were designed and constructed by educational groups in Europe and many schools have been monitoring their progress.

SEDSAT Experiences Problems

Following a successful launch, this satellite apparently has developed a major power drain problem. It appears that two primary systems, solar panels and batteries, are not performing to specifications. SEDSAT-1 has experienced several negative power cycles during its short time in orbit.

Several stations are attempting to uplink to SEDSAT-1. The primary objective is to establish an uplink to the satellite and then upload a new code necessary to allow changes in the flight parameters. Many amateurs around the globe have been sending telemetry reception reports to the SEDSAT Team. Reports should be sent via email to *telemetry@seds.org* .

AMSAT National Co-ordinator
Graham Ratcliff VK5AGR
E-mail: *vk5agr@amsat.org*

AMSAT Australia Net
The AMSAT Australia net is held on 80 and 40 metres LSB each Sunday evening. During daylight saving time in South Australia the net is on 7068 kHz +/- QRM with an official start time of 1000 UTC (with early check-ins at 0945 UTC). During the rest of the year, the net is on 3685 kHz +/- QRM with an official start time of 0900 UTC (with early check-ins at 0845 UTC).

AMSAT Australia Newsletter and Software Service
The newsletter is published monthly by Graham VK5AGR. Subscription is $30 for Australia, $35 for New Zealand, and $40 for other countries by AIR MAIL. It is payable to AMSAT Australia addressed as follows:

AMSAT Australia
GPO Box 2141
Adelaide SA 5001

Keplerian Elements
Current keps are available from the Internet by accessing the AMSAT FTP site, *ftp.amsat.org* and following the sub-directories to "KEPS".

PANSAT

PANSAT, the Petite Amateur Navy Satellite recently launched from the space shuttle Discovery, is apparently alive and well as it continues to orbit the Earth.

It carries a spread-spectrum communication package fabricated by student officers and faculty members at the American Naval Postgraduate School. Dan Sakoda KD6DRA, PANSAT Project Manager, said that while naval officers had a major role in the development of the spacecraft, the actual users of the small satellite will be Amateur Radio operators.

The Naval Postgraduate School is using ham radio in a purely educational endeavour. In return, the amateur radio community will have a new resource to investigate spread-spectrum techniques. It is expected that PANSAT will enter service shortly (better bone-up on spread-spectrum techniques!).

Phase 3D Undergoes Successful Thermal-Vacuum Testing

In late October 1998, the Phase 3D satellite spent the best part of a week in a critical test of its space-readiness. Whilst in a vacuum chamber it was subjected to five cycles of alternately broiling and freezing. Then the temperature was allowed to stabilise and the test chamber was brought up to atmospheric pressure.

On inspection, Phase 3D did not appear to be any the worse for wear. Karl Meinzer DJ4ZC, President of AMSAT-DL, said that, *"The test has been extremely successful"*.

A few things will need to be corrected, but that was the purpose of the test. There were no major failures and no irreversible problems. AMSAT's engineering team will be analysing their test data over the next few weeks to fully understand the spacecraft's performance during the test.

MIR Anniversary

It's hard to believe, but amateur radio activity on board MIR is 10 years old. On 6 November 1988 amateur radio gear was first activated on board the Russian spacecraft.

Over the past decade more than 60 Cosmonauts and Astronauts have made thousands of radio contacts with radio amateurs in just about every country of the world. We are very fortunate to have had the opportunity to take part in this exercise and also to be able to look forward to continued amateur radio activity on the forthcoming International Space Station.

International Space Station News

According to Frank Bauer KA3HDO, AMSAT-NA Vice President of Human Spaceflight Programs, *"We are proceeding full speed ahead on Amateur Radio aboard the International Space Station."*

The initial installation on the ISS will allow the crew to operate on voice, packet and digital voice beacons right from the time that the station is occupied. The hardware is scheduled to be flown on the STS-96 mission in May 1999. Antennas will be taken up and installed shortly thereafter. It is planned for the first crew to begin living on ISS in late 1999 or early 2000.

This very early installation is an indication of the esteem that amateur radio operations have attained in the world of human space flight. It is due also in no small part to the efforts of people like Frank and his team who have been working very hard to integrate the amateur radio activities with the crew's recreation complex. The future looks very exciting for amateur radio in space.

Next Month

The twice-yearly (January-July) update of what's up, what's down, what's working and what's not in the amateur radio satellite field. Keep those antennas pointing UP!

Repeater Link

Will McGhie VK6UU
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Lesmurdie WA 6076
E-mail: *will@vale.faroc.com.au*

Wall to Wall Pirates

I sit here listening to the pirate activity on 29.120 MHz, the gateway frequency on our two metre repeater VK6RLM. The 29 MHz system has a normal mute on the 29 MHz receiver so any signals on 29.120 MHz are re-broadcast onto two metres.

As the sun spot activity increases over the next few years this can only get worse and a CTCSS mute will have to be fitted to the 29.120 MHz receiver. This, unfortunately, will limit amateur activity incoming on 29.120 MHz, as few HF amateur transceivers are fitted with CTCSS encode. However, there are few options and CTCSS it is before too much longer.

What has stirred me up is the amount of pirate activity on our 10 metre band and the regulations relating to 29 MHz gateways.

Firstly the pirate activity. It has been suggested we move the 29 MHz gateway to another frequency, so I tuned over the 29 MHz segment allocated to gateways. It did not matter what frequency I tuned to, there was pirate activity. And it **is** pirate activity! The nature of the signals are non-English speaking but the style of operating is not amateur. The "QSOs" are only of a few words between "overs". Callsigns, even in another language, have a repetition about them that an amateur would recognise.

These signals are short and almost like giving instructions. It has been said that some of the pirate activity could well be taxi traffic and/or fishing boats from some place or places north of Australia. Whatever the source of the activity, it does not look good for our 10 metre band. We could well lose the band due to sheer weight of numbers making the band unusable!

This pirate activity started me thinking about the regulations we have to adhere to in relation to 29 MHz gateways. It was a protracted struggle (four years) to be allowed to put gateways on 29 MHz and, even then, only with considerable limitations.

Only three channels were allocated and the gateways are not allowed to link to one another. While we, as law abiding amateurs, are required to limit our experimentation on the 29 MHz band, for reasons that escape me, the 29 MHz band is being lost to pirate activity. At least the last amateur standing will have stuck to the letter of the law and, when the last amateur abandons the 10 metre band, the regulations will be no longer needed. Seems a silly way to get rid of the regulations, but we won!

The 29 MHz Gateway material has been put together, along with additional information, and sent to the WIA Liaison Team to argue the linking regulation limitation with the ACA. I will keep you informed of progress or otherwise.

40 m Gateway

Here is an update on the 40 metre Gateway idea. To refresh your memory, our local repeater club applied for a Gateway licence on 40 metres SSB.

Similar to the 29 MHz Gateway, a single 40 metre SSB frequency would be gatewayed onto a two metre repeater. This would allow those amateurs, who, for several reasons, could not access 40 metres, access via 2 m FM. The ACA turned down the licence application.

It is hoped the WIA will be able to meet with the ACA and argue the case for allowing 40 metre gateways.

The original proposal has been sent to the WIA Liaison Team, along with the ACA refusal and other additional material, to bring the Liaison Team up to speed. Even though the original proposal had input from FTAC and support from the VK6 WIA, it did not have direct input from the WIA Liaison Team. It is hoped the WIA will be able to meet with the ACA and argue the case for allowing 40 metre gateways.

Climbing

How does your repeater club do its maintenance on towers? There is a never ending need to replace antennas or install new ones on repeater sites. The problem is that we are all getting older and, with few exceptions, there are no new young amateurs. Sure, there are a few, but with so few young people becoming amateurs, and from that few not many who are prepared to climb towers, we are having increasing difficulties in maintaining our repeater sites.

One of our Perth sites has had a faulty antenna or coax for almost two years. The 2 m repeater has been running on a standby antenna installed along with the original antenna over 15 years ago. Despite pleas for help in climbing the 30 metre mast and sorting the problem out, there have been no offers.

What will happen when we are all over 60 and unable to maintain our repeater sites? Perhaps this problem is largely restricted to VK6 but I would like to hear from the rest of Australia. Is this a growing widespread problem or not? Is VK6 the only state getting older?

Staying in Bed

Ever had one of those days where staying in bed would have put you in front?

I have been modifying a piece of two metre equipment for a WIA VK6 news link between Perth and one of our country repeaters. The original equipment that is still in service has needed replacement for some time and I started to build the replacement some four years ago.

It was one of those projects that was not needed in a hurry but four years was becoming ridiculous, so I put it back on the bench and refreshed myself with the progress of the modifications. This can take a while as remembering back four years and why you did a particular thing is difficult. However, the modifications and design concepts had been drawn onto computer, so before too long the soldering iron was running and components were being installed.

All was going well until a simple mistake in the placement of a component resulted in the direct FM modulation of the transmitter not working as it should. I spent several hours trying to find out what was wrong. I even swapped the exciter board, but for a different reason (it was not an exact replacement) the transmitter would not work.

The original exciter board was re-installed and a couple of hours later I found my mistake. So simple, when I found I had placed a resistor wrongly!

I had looked at the circuit many times but not noticed the mistake. Most of one day was wasted all because you see what you want to see and not what is really there!

Once the problem was rectified, the equipment was well under way and, hopefully, before too long the replacement link will be ready to go into service.

WIA Web Page

I had a good look over the newly established Federal WIA Web page and was impressed. The page has been put together by Richard VK2SKY and contains a vast amount of real information.

Many Web sites might look good but take a lot of clicking from page to page and, at the end of it, there has been little real information.

To give you an example, the site may be about amateur radio and mention is made of, say, band plans but the actual band plans are not on the site. Detailed information is missing. The Federal WIA home page is worth a visit as it contains a vast amount of information about Amateur Radio in Australia, with particular reference to the WIA.

This source of information is a fantastic research tool. I have been involved directly with WIA matters for several years now and have found it difficult to find out information relating to past and present WIA policies. This is not to say the information is not available but it can take a lot of time to obtain it.

How much time you can spend on WIA matters varies greatly between individuals. Sometimes you may give up due to a variety of factors when perhaps you may have succeeded had the information been easier to find.

The Internet really can be very useful. For a start it is available to all if they choose to become connected. But you actually don't have to be on the Internet to use some of the information. Any Web site, like the Federal WIA page, can be sent to you on a computer disk.

Provided all the information and related links are on the disk you have access to the Web site just the same as if you were connected to the Web. And what is so great about Web pages is they are so easy to use. If you can read you can navigate a Web site and use the easy-to-find information. A number of mouse clicks takes you from page to page and it is fun to use. I hope more information relating to the WIA is placed on the Federal pages, perhaps WIA policy and motions that have been passed. I'm often asked what is the WIA's policy on a particular topic and at times have difficulty finding precise information on that topic.

The WIA, in my opinion, is a vast bureaucracy that can best be served by easy access to information. Without accurate information the bureaucracy can defeat the amateur giving up his or her time to become part of Divisional Councils or Federal positions.

Well done, Richard, on the Federal WIA Web site and in particular the time you must have spent to construct the site. It must have taken many hours (perhaps hundreds) to reach this point. I know I put together the VK6 Web page and it took me an hour or two each day for several weeks to get the basics running, followed by an average of one to two hours a week every week from that time on. This is why some amateurs don't have time for Amateur Radio.

The Federal WIA Internet site can be found at *www.wia.org.au* . **ar**

Did You Know

● The **WIA National QSL Collection** may be inspected at most times by appointment. Phone 03 9728 5350. The collection, arguably the largest in the world, is located at 4 Sunrise Hill Road, Montrose, Victoria. There you will be able to inspect one of the most complete prefix collections existing, as well as 24 volumes of DX QSL cards of superior quality from every DXCC country in the world. There are also Pre-war, Thematic and Pictorial Collections.

● You can obtain, free of charge, a photostat copy of a QSL card. These can be most useful if you wish to write an article on the history of amateur radio.

● If you are an SWL you can inspect our pre-war SWL QSL collection and a few modern SWLs of superior design.

● Certain parts of the collection are on loan to Radio Clubs and other interested bodies for exhibition.

Ken Matchett VK3TL **ar**

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When you've finished building the 20A switch-mode shack supply from this month's story, what next? Well, how about some good old HF mobile? Look, the bands are hopping at last, the sky is clear and blue... and Terlin's new *Outbacker Outreach* antenna is really unbelievably good! We put this 12ft whopper on the car, and worked the world!

December's R&C is simply jammed with value and quality reading for amateur radio operators! Like these...

- CONSTRUCTION: the final part of Phil Harman's remarkable switch-mode supply. From junk parts!
- ANTENNAS: that vital part, the Earth. Build an *elevated* Earth system and surprise yourself! From VK6VZ
- 1999 DXCC List. A lift-out wall chart giving all the latest countries, deletions and additions. By VK9NS
- A LINEAR FOR AUSTRALIA! Neil VK3ND checks out Emtron's DX-1 linear. Smaller for Oz. Great stuff!
- CONSTRUCTION: build a superheterodyne HF receiver in steps. Part 1, by Harold Hepburn, VK3AFQ
- *As usual, we have our three DX columns and lots more... the best stories and regulars every month!*

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All times are UTC

Another year

This issue commences the 30th year of my compilation of these notes. Many changes have occurred in the VHF/UHF world since that fateful(?) day in 1969 when the first of these notes was typed. Likewise, many changes have occurred in the methods of preparation and final printing of these notes for your reading.

Thank you for the continuing support so many of you give me. Your efforts have made my task easier.

Big Antennas

Dave Collins K2LME provides a list of two metre "big guns". There may be others.

Antennas are number-of-Yagis x number-of-elements-per Yagi, except F3VS which is six wavelengths, element count unknown; and VE7BQH is a collinear.

W5UN 48x17, K5GW 48x10, IK3MAC 30x19, SM7BAE 24x20, KB8RQ 24x19, KR5V 24x10 (ex KN6M), SM5FRH 24x18, F3VS 24x6wl, WB5LBT 24x17, VE7BQH 384 elements, W0RWH 16x19, I2FAK 16x18, WA9KRT 16x17. All run 1500 watts out.

Beacons

Chas VK3BRZ thanked me for a report on the continuing reception of the two metre VK3RGL beacon. He said: "*I rely on on-going reports like yours in order to gauge its health. The antennas could fall down and I wouldn't know it by the strong signal at my place. Whilst on the subject of beacons, the Mount Gambier 70 cm beacon is a real ripper here. There's never a time I can't hear it, and often it's at S3-4. It only needs a sniff of an opening to hit S9.*"

Last month I hoped for room this month to feature points from the President's Annual Report of the West Australian VHF Group.

The following portion from the report features the VK6 beacons and should interest many readers, even those overseas.

One of the Group's core functions is the provision of VHF/UHF/SHF beacons. This year has seen an exceptional amount of activity, presided over by Don Graham VK6HK and Wally Howse VK6KZ, who have been literally involved in everything.

VK6RPH and VK6RBU continue to give sterling service, but sadly an era came to an end when the tower at Busselton on which the VK6RBS antennas were "piggy-backed", was condemned. Fortunately, our equipment was recovered successfully. Some will be re-used, but the UHF varactor multipliers are now somewhat obsolescent.

Al Edgar VK6ZAY has been commissioned to use his expertise to produce a state-of-the-art 1296 MHz transmitter, which will be band plan compliant. This will be installed at the existing VK6RBS, if possible, or failing that, somewhere else in the State.

Steps were already well advanced on the construction of a set of modern replacement 144/432/1296 MHz "South Western" beacons, intended for Augusta. These are essentially complete, thanks to the usuals plus Al VK6ZAY (1296 again) and Terry VK6ZLT (antennas). All that remains is to find a suitable site.

That makes the second time this year that the US has been worked -

The Group has also helped with the transmitter for VK6REP on 144.568 MHz at Esperance, which is looked after by Bill Hockley VK6AS, plus transmitters on 50.308 and 144.564 MHz for the Albany beacon VK6RTW, which is hoped will soon be operational under the auspices of the Southern Electronics Group, probably from the King River QTH of Tom Reed VK6TR.

There is considerable interest in again having a two metre beacon in Kalgoorlie. A suitable transmitter has been readied in anticipation.

Looking north, the Exmouth beacons are ready for installation, with 50.304 and 144.576 MHz equipment on site. A licence has been issued for the two metre frequency, but unfortunately six metre approval has been delayed. This beacon should give good early warning of international six metre openings.

Hopefully it will also stir up two metre interest from South East Asia, as well as northern Western Australia. Thanks to Rex Wiggins VK6RAW and Rick Kowalewski VK6XLR, for looking after the local arrangements.

In virtually every case, Don VK6HK has built the keyer, and converted the "prime mover".

On the SHF front, the 10.368 MHz beacon, with transmitter constructed by Neil Sandford VK6BHT, and antenna by Trevor Niven VK5NC, is undergoing integration and testing by Wally VK6KZ. Investigations into the feasibility of the 5.6 GHz beacon transmitter are being undertaken by Al VK6ZAY. Tom Berg VK6ZAF has agreed to manufacture a prototype antenna, and Don VK6HK is once again producing a keyer/VHF exciter.

So, with all the present and projected activity in VK6, coupled with active beacons in VK5 on 52, 144, 432 and 1296 MHz, 2.4, 3.3, 5.7 and 10 GHz, plus the beacons in Mount Gambier, the western half of Australia is well equipped with beacons, all within a reasonable distance of most of the population.

50 MHz Opening to the US

Ron Graham VK4BRG reported that on 26/10 at 0050 he worked K0GU in DN70 Colorado. Signals initially were marginal, but peaked 5x9 each way at 0053. K0GU was still audible at 0129, a 39 minute opening and the only station he worked. K0GU worked VK4DO at 0056 and later he was heard working Brisbane stations.

John VK4KK advised that he, too, worked Jay K0GU on 26/10 at 0122 5x7. Others in the Brisbane area to work Jay were VK4APG at 0117 and VK4KJL at 0120. John said that at the same time six metres was open to YJ8, ZL and VK7 by Es, so probably the US station arrived with the addition of an Es extension.

That makes the second time this year that the US has been worked - signals were into VK2 on 1 January.

Commenting on the opening, **Steve KL7SIX** sent an e-mail:

The following extract from the six metre propagation logger has interesting connotations from a DX working perspective. In this case it was non-critical DX, but I wonder how, in the future, we will validate serious six metre attempts and records if people choose to splatter the results all over DX clusters.

Whatever happened to the true DXer who relied upon wits, operating ability and know how? Now to get a new country in W7 you monitor 147.060 where the DX is broadcast by a mechanical voice; all you need is a two metre handi talki.

Whilst one cannot argue at the merit of spotting six metre DX for all the US to see, I think putting signal reports on the cluster is a no no and could compromise a DX contact just like posting signal reports over 28.885.

I strongly recommend you work the DX before you spot it because I imagine most DX chasers would have no compunction in jumping on to the channel and calling the guy.

Consider the posting below, all on 26/10:

00:40 de N6XQ - worked five ZL3s, all SSB. ZL3NW loudest peak 5x8. 00:42 de N5TSP- ZL video in/out...bitchin' day for six...whew!

00:55 de K0GU - DN70 VK4BRG 5x9! 50.110.

00:58 de K0GU - Also VK4DO 50.110 (poppy2.verinet.com)

01:09 Both VK4s now calling CQ on 50.125.

01:11 You must have a pipeline, Jay. Nutin' here de N5JHV.

01:14 de K0GU - Just me and the two VK4s so far. Now back at 50.110. 01:19 Not a thing here...W0LD...DM78...Jay, do you still have them? (hd79-124.hil.compuserve.com)

01:22 de K0GU - three more VK4s, opening moving a bit west.

01:25 de K0GU - Still in, some now on CW.

01:26 de K0GU - VK4KK 50.125 (poppy2.verinet.com).

01:36 What beam heading Jay? VE7AGG CN89.

01:36 de K0GU - Still in weak. Didn't realize the footprint of the opening would be so small! (poppy2.verinet.com).

01:37 de K0GU - Beaming straight at 'em 255 degrees.

01:46 de K0GU - All gone now. My first opening ever, cool.

Comment from **Jay K0GU**: *Since I've only been on the band since 1995 this was my first TEP opening. Didn't really expect an opening this far north with a solar flux of only 108. I didn't hear anything earlier in the day when the southern US was working South America on backscatter. The opening lasted about 40 minutes and seemed to have a small footprint. The VKs only seemed to be hearing me. VK4BRG was the strongest, peaking at S9.*

Mike ZL3TIC reports that at 2350 on 25/10 six metres opened from ZL3 to W6, and he worked N6XQ. Other stations to work N6XQ were ZL3ADT, ZL3NW, ZL3AAU and ZL3TLG. Also at 0230 26/10 49.750 strong, 49.7480 also in. Mike was hearing weak signals on 50.110 but said these could have been JAs. N5JHV also reported as being worked by ZL3s.

1/10: Another opening into the US at 0100, K6QXY was in for about 10 minutes. He was very weak and worked ZL3NW. He tried to work ZL3TIC and ZL2KT but was lost. The 35 MHz pagers were very strong. Also KL7SIX heard ZLTV.

Scott VK4JSR said there was a large JA opening on 30/9. Started approximately 0600 and was still open seven hours later at 1300. All JA call areas worked. JA pile-ups heard working VR2, 9M2, KH2 until 1300. VR2XVD heard 1/10 on 50.140 working JAs. V73AT worked at 1140.

19/10: 1230 49.640 MHz 5x1 - Alaskan DARN Radar frequency - very scattered signal, with strong carrier and a rapid, strong 'buzz' like video. Beam heading from VK4 (QG62nm) was between 20 - 30 degrees. Could this have been AU with a TEP extension? Very unusual propagation considering this is 2230 AEST! JA beacons and 49.750 MHz TV between 1215 - 1308.

Also, there was quite a flutter of interest on 22/10 when a report came through that VK6AOM in Buntine had worked IK2QDX at 0705 on 50 MHz. However, it turned out to be a misinterpreted message by the sender as the contact took place on 10 metres!

Still, if it didn't do anything else, it awakened a few operators to the fact that they need to watch six metres for the unexpected.

Steve KL7SIX advises his itinerary: 21/12 QRT in KL7 and until 3/1/99 QRV in VE7. Then flying out until 12/1 QRV in San Diego W6. Until 17/1 operating as 7J1BAX central Japan districts 1/2/3/4. 18-19/1 in HL1. 21/1 back to VK3 and SIX beacons reactivated.

. . . there was a large JA opening on 30/9 . . . . was still open seven hours later . . .

At present Steve is using a TS-680s and a JHV seven element Yagi and operates daily on 28.885 from 2300 using 500 watts. ZLTV is very consistent, particularly from 2300 to about 0200, heard on 27-28-31/10, with slow fade characteristics of F2 propagation.

The following items from *Internet Six News* courtesy of **Geoff GJ4ICD**.

3/10: F2 into Europe, many ZS6s, FR5, V51 and Z22 into GU, GJ, G, F, EA, I and DL etc. HH6PA also worked LU and PY: W8 to HC, LU, PY - first LU to TZ. Worked LW5EJU and seven other LUs between 2024-2036. Also worked LZ1SJ and LZ1QE at 1332-1334. 73 Larry TZ6VV.

3/10: ZS report: A nine hour F2 opening! Band opened around 1100 with good signals to G, ZS6s on and there was still strong EU video and weak 50 MHz beacons from Mediterranean area to 1930. Peter ZS6PT (ex-ZS8MI) reported hearing or working more than 20 countries during the opening. TL5A was in again after several days absence due to poor propagation. Thanks to Italian stations for standing by when asked and giving us a chance to work further north. 73 **Hal ZS6WB**.

JA report from **JA1VOK**: Okinawa guys reported that PY2OZF, PY2NQ, PY5AG, PU2MZI, PY2HDY and ZP6CW were worked at least by 7J6CCU, JR6VSP and JR6HI in PL36 paradise at 0245-0331. ZP6CW 5x9 was worked for the first time this cycle. However, in JA homeland, A35SO (Op: DJ4SO) later appeared on 50.110 SSB 5x9 at 0338 (worked Claus on 50.120/split at 0342) and was heard until 0535 here. Surprisingly PY, ZP and A3 in spite of solar flux of 112. Then I spoke with Val UN3G 5x9 on 28.885 at 0539 but failed in six metre contact. UN3G may be soon from JA.

4/10: Global news: 0000 PY to HP, J3, YV and ZP: 0300: PY to JA; JA to A35 and V63: 0700: KH2 to VR, BV, HL. Later ZS6 into DL and IT9; 1130: FR5 into UK, V51 and TZ6 into IT9.

5/10: PY report: Very interesting propagation. Worked CT4, EH7, EH8, CT3, D44, 3C5I, 9H1, etc. Later, I heard WP4O and others WP4 stations, also TI, YV, 9Z4. The best was Hawaii, first time this cycle: Ted NH6YK 5x3. Also copied KH6HI/b on 50.065. 73 **Peter PY5CC**.

10/10: Band open most of the afternoon, mostly to EA. Band re-opened to Mediterranean area just after sundown and shortly afterwards an Es extension gave us access to central Europe with quite a few DL, G, LX, ON stations worked by the ZS6s. OK1FFD also popped up briefly to give a new one to a lucky few. 73 **Hal ZS6WB**.

10/10: Worked three new countries: 4Z5JA, HH6PA and TZ6VV. Worked also: ON4ANT, ON4GG, KP2A, NP3HU, LUs, PYs, EH8s, CT3s. Worked 36 countries in Cycle 23 now. 73 **Leo PP1CZ**.

11/10: **VK report from Scott VK4JSR**: 48.250 MHz EU TV Video S1-2 at 0845 - 0900. Worked several G stations on 28 MHz with S5 signals but no one on 28.885 MHz! Also noted that GJ4ICD copied 46 MHz TV at 0830. 12/10: 48.250 MHz EU TV S4 between 1100 - 1145. 14/10: EU 48.250 MHz TV in again last night 1000 - 1100. Very weak at RS 41, but it has become a regular indicator each night this weak. G and GW stations were up to 5x9 on 28 MHz from 0945 up to 1030, then rapid drop in signal strengths.

17/10: ZS report: Good day to Mediterranean area with a number of DL, G, HB9, OE, PA stations contacted locally. Ivo ZS6AXT also worked OK and Z3, two new ones for him and the first Z3-ZS QSO that I know of. My highlight of the day was after calling CQ, finding US5CCO in the pileup for country #104. Many stations active in 9A, CT, EH, F, I, LZ, S5, SV, YO, YU giving the ZS6 stations a real treat. Again the band was open late and 5B4, OD and SV beacons were still strong at 2000. 73 **Hal ZS6WB**.

JA1VOK reports that Joe 7J7ACX was formally KG6JDX, and 7J1AEJ/7 is former Joe KG6DX. Both are now active on 50 MHz

from Misawa US Air Force Base in Aomori, QN00, northern Japan.

21/10: **GJ4ICD report**: 0700: VK 46 MHz video; 1130 Es to IT9, then 1430 3C video, TU2OJ, TZ6VV, ZS6XJ ZS6WB plus the two ZS6/b and V51KC into much of UK/GJ as far north as IO93. (1430z to 1530z approx).

Rod VK3DQJ reports on six metre activity in and around Melbourne: *The early morning weekday net (2100 - 50.120 then up) seems to be very popular some mornings. Although I am a recent addition to the net, at times I have noted up to eight to ten stations.*

Even though the boys up north have been working some form of DX, it has been fairly quiet down the southern part of VK. I can now listen below 50 MHz and our Asian friends can be heard all the way up to above 40 MHz most days. (And I thought 10 metres was bad!). I understand the pagers (35 MHz) from "the states" have also been heard in Melbourne.

14/10: 0630 49.750 video and JA6YBR/b were extremely strong. A very intense TEP opening occurred into JA, lasting, on and off, for approximately three hours. At my QTH, nearly all signals were well above S9 and with very little QSB. Stations heard operating were VK3ATQ, VK3CAT and VK3AMZ. During the opening, 48.240 and 48.260 were also heard. JAs working the V63 on 50.130.

15/10: Very little activity. JA2IGY/b was in and out of the noise for awhile around 0330 - 0350.

Two Metres and Above

Guy VK2KU reports: *It has been a quiet winter but spring has now definitely arrived in the Blue Mountains. The path to VK4 on 144 MHz continues to elude me due to mountain ridges to the north, though I often hear Trevor VK4AFL in the noise working Gordon VK2ZAB.*

Regular contacts to the south and south-west on 144 MHz include Warren VK3BWT, Rob VK3EK, Bob VK3AJN and Bill VK3AMH. On 5/9 at 2238 I was surprised and pleased to work Roger VK3XRS/p at Eagle Point (south of Bairnsdale) (5x2, 5x1) for my longest non-duct 432 MHz contact so far (about 540 km), particularly as I am only running 25 watts at present with no receive pre-amp.

Then on 19/9 at 2309 I worked VK3EK 4x1 on 432 MHz, also earlier at 2304 VK3DUT in Bumberrah on 144 MHz. Since then the following have been added - 24/9: 2210 VK3AJN 5x2 on 432 MHz; 26/9: 2129 VK4AFL 5x3 on 144 MHz; 09/10: 2244 VK3AQU 4x1 on 144MHz.

Grid Squares

Guy VK2KU suggests the following: *By way of encouragement to ourselves and others, why don't we run a league table of grid squares worked on 144, 432, and 1296 MHz? Higher bands could be added if desired.*

We would need a volunteer, probably from among ourselves, to correlate the information. My access to e-mail is not frequent enough for me to do it, and in any case running the reflector is my contribution. The Table could be published every three months, perhaps in Eric's column in Amateur Radio magazine if he is agreeable.

I suggest that we are not assiduous enough in exchanging QSL cards to include figures for grid squares confirmed in addition to those claimed as worked. In any case the 'VHF and up' scene on .100 and .200 generally sees most contacts made 'in public', so how about just "grid squares worked" ?

To start the ball rolling, my own current figures are: 144 MHz: 37, 432 MHz: 11, 1296 MHz: 3. Respectable on 144, but a long way to go on the higher bands.

. . . why don't we run a league table of grid squares worked on 144, 432, and 1296 MHz?

To conform with the WIA Grid Squares Award, contacts should be from 1 January 1990.

Any support for the idea? Who will volunteer to correlate the data?

From **Steve VK3OT**: *I agree with the grid locator incentive. Disagree with start date. Contacts on all bands occurred prior to award start date so should be back dateable and include 50 MHz. Australian amateurs are the most reticent when it comes to giving out grid squares during QSOs. Most of us would not even know how many squares we worked in VK on 50 MHz as most cards don't give details.*

The Ross Hull Memorial Contest runs from 26/12-11/1/99. See last month's *Amateur Radio* for details.

Six Metre Repeaters

Steve Blanche VK2KFJ has been attempting to provide a reliable list of six metre repeaters throughout VK. It is not an easy task but he has established that the first seven repeaters are operational as listed, the others their present status.

53.600	VK3RMR	Gippsland, 10/98
53.625	VK2RSN	Newcastle, 07/98
53.675	VK2RMB	Sydney North, 11/98
53.725	VK4RGA	Central QLD 01/98
53.725	VK4RLB	Brisbane Sth 01/98
53.750	VK5RDX	Adelaide Sth 01/98
53.800	VK6RAP	Roleystone, 11/98 - suffers QRM from pagers
53.925	VK8RDX	Darwin 10/98
53.550	VK2RIC	Lismore, off air, transmitter fault 10/98
53.550	VK2RSJ	Sydney West, defunct, scrapped.
53.700	VK2RGN	Goulburn, under construction, 04/98
53.800	VK2RMS	Cooma, under construction, 10/98
53.850	VK2RWI	Dural, under construction, 10/98

Anyone with additional repeaters or information is asked to advise Steve at his e-mail address *steveb@towertechnology.com.au* .

Aurora News

Spectacular auroral displays were noted over a wide area, in both hemispheres, on 7, 8 and 9 November. The following may be the reason for the auroras.

DXLC report: The geomagnetic field was quiet to very severe storm on 8 November. A strong solar wind shock was observed at 0420 UTC at SOHO. This was the arrival of the CME associated with the 5 November major flare. The disturbance from this CME peaked between 0600 and 0900 UTC when the planetary three hour A index reached 203. Solar wind speed ranged from 429 to 673 km/sec.

Solar activity was moderate. Solar flux was 152.7, the planetary A index was 68 (3-hour K indices: 5786 4323, Boulder K indices: 5675 4323). Region 8375 doubled its areal (superficial extent) coverage and should be capable of producing several further M flares before rotating over the west limb on 11 November. An isolated X flare is a possibility as well.

Region 8377 developed slowly and was quiet. Region 8378 gained a few spots but was quiet. Region 8379 was quiet and stable. Region 8380 decayed into spotless plage (unusually bright region on sun). Regions 8381 (a reversed polarity region) and 8382 were quiet and stable. New region 8383 was numbered as it rotated partly into view at the southeast limb. ... *DXLC report* courtesy of **Geoff GJ4ICD**.

Referring to the aurora, the following reports were received:

On 7/11 **Steve KL7SIX** reported that, following an alert from Steve KL7FZ of impending conditions, at 0300 a visual auroral display occurred. Up to 0542 stations in Alaska, Canada and USA (W0 and W7) were very strong, many with characteristic auroral sound.

On 8/11 **KL7SIX** was working stations to

near 6000 km by Es + AU; VE4-8, W7, KL7 worked. From sunset visual auroral conditions.

Steve KL7SIX sent a report from *The USA Cluster,* which gave a blow-by-blow description of events on 9/11 with reports from 0629 to 0942. Too much detail for this column, but the entries covered auroral events in KL7, VE4-8, W7, Russian video, VE beacons. It's there for those who seek the details.

A Pointer for the First EU to KL7 Maybe?

First significant reception of 49.750 TV was reported in KL7 on 8/11 by Steve KL7FZ at 0816 and still there at 0940. Reception was from north west aimed at visual AU display and signals on 49.7499 and 49.7542 were heard as well as other weaker offsets. Beam heading was 345 degrees and Au multi-path doppler was observed. Range we estimate at 1500 to 2500 miles and probably Asian offsets. During this event the magnetometer dipped extremely negative. Did anyone hear anything?

Rather excited at the discovery of the north-west path to European Russia - it has everyone scratching their heads. ... de **KL7SIX**.

Trevor VK5NC

8/11: The 144 MHz band has been open from 0730 until approx 0835. The propagation involved was auroral backscatter and signals were coming from the south east approximately 150 degrees from Mount Gambier.

Stations worked were VK1VP, VK2KU and VK2ZAB Sydney, VK2TWR, VK3CAT, VK3BWT (Mallacoota), VK3EK, VK3DUT, VK3AFW, VK3HY, VK3JEG, VK3TMP.

The signals were very rough and hard to copy and there was some QSB as the curtain was shifting. There were no VK7 stations heard during the opening.

9/11: The fabulous two metre band was open again via auroral backscatter, the signals coming from the south east and some were very strong. Stations worked were VK3TMP, VK2TWR, VK3BWT, VK3XPD, VK2KU, VK3AFW; VK3HY and VK2KU on CW. The band opening lasted about two hours and was very noisy some three hours later.

The Aurora Australis must have been very intense as it is optically visible tonight in the southern sky. Six metres was very active as well and several stations along the southern coast of Australia in VK3, VK5, southern VK2, VK1 and VK7 were heard on both bands.

Tony VK3CAT

8/11: From 0619 worked VK5BC and VK3DUT on six metres. Worked VK1VP and VK3DUT on two metres. Heard VK2TWR, VK2KU, VK3EK and VK3ZQB on two metres. Beam heading 150 degrees.

Rod VK2TWR

Auroral opening commenced 0630 9/11 and worked VK5NC and VKRTMP.

Ron VK3AFW

My log of stations worked and heard is as follows:

8/11: 0648 VK1VP 472 337; 0709 VK3DUT 57 57; 0713 VK2RBC 432; 0715 VK3EK 57; 0723 VK2KU 45 54; 0745 VK5NC 52 42; 0749 VK2TWR 43 55; 0752 VK3BWT 41 51; VK3CAT, VK3BJM, VK3HY, VK3TMP, VK3ATQ, VK3ZLS heard.

9/11: 0708 VK5NC 5x5; 0714 VK2TWR 5x7; 0716 VK3BWT 5x1; 0727 VK3ZQB 5x3; 0733 VK2KU 511; 0746 VK3EK 5x4; 0804 VK7JG 4x3. Heard but not worked: VK7XR, VK5DK, VK1VP, VK3HY, VK3TMP, VK3XPD and VK3ATQ.

The fabulous two metre band was open again via auroral backscatter

Barry VK3BJM

8/11: I have never heard auroral reflections before, so last night's event was quite an ear-opener for me.

Tony VK3CAT, called on the phone at 0700 to warn me something was happening. Managed to work Norm VK3DUT 5x7 on 144.100. Norm's signal was best understood 1 kHz up.

Also heard VK3ZQB, VK3EK, VK2KU, VK2TWR and the Nimmitabel two metre beacon, before the dinner-gong sounded.

Managed to record on tape the contact between Ron VK3AFW and Russell VK3ZQB. A friend will recreate it as a .WAV file, so other inexperienced ops (like me) can have some idea of what to expect.

Called Max VK3TMP, and amongst others, I believe he worked a very loud VK5NC, and heard a VK4, but Max couldn't make out the last three letters of the call. Anyone from VK4 have an idea who he might have heard?

Gavin VK3HY

8/11: 0710 50.200 VK7KXA 49 49; 0723 50.200 VK3DUT 57 57; 0749 144.100 VK5NC 45 46.

9/11: 0711 144.100 VK5NC 55X 55X; 0715 50.200 VK7KXA 56 59; 0726 50.200 VK7XR 54 54; 0730 144.120 VK7XR 54X ??? QSO incomplete; 0734 50.200 VK7KXA 53 53; 0748 50.200 VK7JG 55 45; 0800 50.200 VK7JG 45 45; 0827 50.110* VK5DK 55 55. *Oops!

As the text books suggest, I found signals easier to read on 50 MHz than on 144 MHz - did not try 432 MHz. Unfortunately, power line QRM was bad on 144 MHz so missed some of the weaker stations.

Russell VK3ZQB

8/11: VK1VP 0630 4x7; VK3AFW 4x7 at 0712. There were many other stations crowding around 144.100 but it seemed difficult to induce them away to frequencies other than 144.100.

The activity lasted until about 0830 and I did not notice any significant aurora display once the sun had set.

9/11: Allan VK3XPD called me by phone to alert me that there was more activity. I worked VK3TMP 4x9 at 0720, VK3XPD 4x7 at 0725, VK3BWT 4x4 at 0726, VK3AFW 4x5 at 0727, VK2TWR 4x3 at 0748 and also heard VK1VP and VK3EK.

There were a few more that I missed. Once again signals lasted until about 0830 but there is significant aurora light display still visible.

Gordon VK2ZAB

Between 0700 and 0800 on 8/11, Guy VK2KU at Springwood worked VK5NC, VK3AFW, VK3DUT and VK3ATQ. Heard VK3TMP and another VK3 unidentified. VK2ZAB worked VK5NC between main and sweets courses! All contacts SSB with some whistling.

Colin VK5DK

9/11: Contacts only on six metres due to noise problems on two metres. Stations worked were VK3TDV, VK3ATQ, VK3KAI, VK3DQJ, VK3HY and VK7JG.

Scott VK4JSR

Nothing heard on 144 MHz beaming 200 degrees; only the occasional meteor burns on CW.

Alan VK3XPD

8/11: I was at the QTH of Max VK3TMP at Somerville when Barry VK3TBM in Box Hill alerted us to auroral activity in the south. At 140 degrees east there was much "wavy" type noise to be heard. The voice is best described as a loud whisper without any tonal qualities.

Max worked Rod VK2TWR, Trevor VK5NC, Russell VK3ZQB and several others in VK1, VK2 and VK3. At one stage we thought we heard a VK4 but none appeared to have been worked.

9/11: With the antenna south the same stations were worked again plus Rob VK3EK

(nee VK3DEM) and Joe VK7JG. Signals were stronger than 8/11 with some reports 4x9.

Several attempts were made on 432.150 but the characteristic aurora noise was absent and the attempts were unsuccessful.

ZL3TIC

9/11: 0330 VK7JG 5x9; 0340 VK1MJ 5x5; 0345 VK3AJK 5x5. Video on 46.240 5x9 all afternoon. In evening strong aurora with 45.240/250/260, 55.250/260 5x9, also MUF well over 40 MHz to Asia, copying "CB" type communications on 28 to 40 MHz.

VK5LP

The aurora did not extend to Meningie, or to Roger VK5NY or Adelaide. Normally, one would expect a return to enhanced conditions in about 27 days time, but with this being caused by CME activity, it is possible that it will not occur around that date. But look and listen anyway.

Closure

We look forward with anticipation to the forthcoming Es summer period. If we can be treated in the same way as the Northern Hemisphere during their last summer we should be happy.

In addition, there are many pointers urging us to be vigilant and watching for F2 openings, certainly to North America and the Caribbean, but also to Europe and the many countries to be found on the way to Europe.

I hope that the South African stations will think to turn their antennas towards Australia and not have them permanently facing north to Europe. That direction may give them the most contacts but there are many stations in VK seeking Africa as a continent and South Africa probably offers our best chance, although there are some other very active amateurs in smaller countries.

By the time you read this the Spring VHF Field Day will be completed. The next contest is the Ross Hull Memorial Contest commencing after Christmas, followed by the VHF Field Day in January, so there are lots of forthcoming activities to interest everyone.

Closing this month with The Philosopher's Corner:

1. The brain is a wonderful organ: it starts working the minute you get up in the morning and does not stop until you get to work!

2. Small miracle: discovering after you've locked the keys in the car, that you forgot to wind up one window.

3. The richest person in the world is not the one who still has the first dollar they ever earned; its the one who still has their first friend!

73 from The Voice by the Lake.

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WIA Divisions News

Forward Bias — VK1 Notes

As the year draws to a close, things quieten down in the Division for the holiday season until our first meeting in the new year. With this edition of the column, my involvement with *Forward Bias* also draws to an end as, from next year, Peter VK1CPK has kindly agreed to prepare these monthly updates.

I have enjoyed preparing the Divisional notes but, as foreshadowed in last month's column, I'm "winding back" my involvement in official matters for the foreseeable future. At our meeting earlier this week I indicated to the committee that I did not intend to seek re-election to the position of President.

I further noted that the time pressures alluded to in last month's column have grown and will necessitate me taking a less active role in the few remaining months of the Divisional year. My heartfelt thanks go to my colleagues on the committee who have expressed their willingness to take up the slack where required.

The matter of insurance for the Division has finally been resolved, thanks to the efforts of Les VK1LD and Gil VK1GH. Comprehensive policies have been secured at a competitive rate. The cover includes voluntary worker and public liability components closely tailored to our requirements.

There is, of course, considerable discussion underway about the future of the WIA and your committee is actively involved in this process. Our efforts are spearheaded by Mike VK1MJ and Gil VK1GH. Your input is welcome and, indeed, encouraged in this process.

Coming Events

The summer fox hunting season is well under way. Hunts are held on Thursday nights and are organised by our irrepressible Technical Group. Contact Neil VK1KNP or John VK1ET for details.

There is no monthly meeting in December; however, be sure to come along to our Trash and Treasure/Buy and Sell evening on Monday, 25 January starting at 8 pm.

In closing, on behalf of the committee and myself, may I wish you and your family a merry Christmas, a happy, safe and prosperous new year and good DX too. Look forward to seeing you in January!

Hugh Blemings VK1YYZ
Division President

VK2 Notes

Amateur Radio House

Once again we are coming to that time of the year when thoughts start turning to Christmas, holidays and all the things that go with the holiday season.

Whilst activities are scaling down elsewhere for the holidays, here in the VK2 office the 1999 Wall Planner is already partly filled with dates set for the coming year. For example, all Council Meetings are showing plus examination dates through to December 1999.

These, together with Trash and Treasure events, Club Conferences, WICEN meetings, Club, and other important meeting dates throughout the year, indicate that Amateur Radio House is again going to be very busy indeed in 1999.

This is as it should be; Amateur Radio House is for the use of our members whether to hold meetings, attend Council Meetings (just to see what goes on) or simply to peruse our very extensive library; plus, of course, the bookshop.

You can enjoy a cup of tea, coffee, or, on a hot day, a refreshing glass of iced spring water whilst having a friendly chat with a fellow visitor or our office staff. Interstate and overseas visitors are especially welcome.

New Tenants

A couple of months ago the downstairs office was again leased. When our agents rang to say that they had received an offer in line with the terms that Council had set, I asked what sort of business they were in. When I was informed "Plant Hire", I immediately had visions of either our car-park full of evergreen shrubs or our members being unable to park because it was full of bulldozers, etc.

I shuddered to think of the President's new Holden Caprice "VK2YC" having to park in the street. Anyway, all is well. The new company only acts as agents; eg, if you want a combine harvester, they put you in touch with someone who has one available and take a fee for their trouble. So, there is still room in the car-park for our visitors and Michael's Holden. The new tenants are a VK3 company, which is a bit of a worry, but the staff seem friendly enough!

Affiliated Clubs Conference

At the time of writing we have just closed off the delegate acceptances and agenda items for the Affiliated Clubs Conference to be held

on 14 November. With 50% of clubs attending, some sending two or three delegates, the Conference promises to be the largest yet; but more on that next time.

Annual General Meeting

The date for the 1999 Annual General Meeting has been approved by Council and will, therefore, be held at Amateur Radio House, Parramatta on Saturday, 17 April 1999.

Nominations for Council, and Motions on Notice, must be received at the office not later than 12.00 noon on Saturday, 6 March 1999. The appropriate forms will be available from the office early in February. Ballot and proxy forms, for those members eligible to vote, will be sent out in March with the Annual Report.

Christmas Holidays

Finally, members please note that the office will be closed for the Christmas Holidays from close of business on 23 December, and will re-open on Monday, 11 January 1999.

On behalf of your Council and office staff, I wish you, and your family, a Very Merry Christmas and a Happy, Prosperous and Safe 1999.

Eric Fossey VK2EFY
Division Secretary

VK5 and VK8 Notes

It is an acknowledged fact that change is virtually irrevocable. Even if we sit and do nothing it will still occur. This applies also to the operations and functions of the WIA. We have our various conferences and meetings and from these action occurs (sometimes not as much as we would wish) and advances are (sometimes) brought about.

Currently there seems to be some action occurring at Federal level with consultation taking place on a number of issues. What will result is to us unforeseen. Gradually we will become aware of any decisions made and over time perhaps learn of and see the results of decisions.

Likewise, in the area of Divisional activities, things are happening. I will try and present some of these for you.

The Burley Griffin Building (BGB)

You will have seen this headline before. Still the saga continues, but in a different vein.

The recent situation was that the West Torrens Council, which owns the property, had indicated a likelihood the BGB would be sub-divided from the main property to be sold and retained by the Council.

This certainly would present few problems for the VK5 Division, apart from additional running costs, lease, water, power, etc to the Division. The situation has been changing and, as I write, is quite fluid.

The VK5 Council has been approached by the Property Development Officer of the West Torrens Council with a suggestion which involves some possible alternative sites for our Divisional Headquarters. He indicates, in his opinion, good reasons for such an approach.

It may well be that a change along these lines could be beneficial to the Division. An alternative site may be less costly for us in the long run, and a more congenial meeting location may result.

Members of the Divisional Council have so far looked at four different proposed sites and indicated generally their order of preference with regard to each.

Currently, more information is being obtained and quite a few questions generated as a result.

You may remember that a survey was carried out not so long ago to determine members' wishes on a number of matters.

From this survey it became clear that the BGB is not a site very much in favour with members as far as meetings are concerned. This throws new light on our occupancy of the BGB and the possibility of a move.

A final decision has to be reached by your Divisional Council. This is not the type of issue which can be placed before the membership on a general basis for a decision. Naturally, members will be kept informed as to actions taken and will be given the opportunity to approve any final decision made by their elected representatives.

Unfortunately, it is not possible to provide a more detailed explanation in these notes. However, there is no doubt that support of members is needed as, if a move is finally required, there will be quite a bit of work to be done in transferring our operations from one location to another.

Constitution

With this issue of *Amateur Radio* you will find the bi-monthly issue of the Divisional Journal. This will consist mainly of the "draft" version of the proposed new Divisional constitution which has been prepared by the special sub-committee appointed to produce such a document.

Please look carefully at this document and give careful consideration to its contents. It is hoped that we will be in a position to present the new constitution to members for their approval at the Annual General Meeting in April 1999.

Recruiting Campaign

A suitable letter has been produced which places before any interested persons, members and non-members, a case as to why the WIA should be supported as much as possible. Copies of these are being distributed by various means.

In view of the current membership situation, I suggest that you should give strong consideration to encouraging others to provide their support for the WIA by either reinstating their membership or joining as a new member, as appropriate.

Action is also in hand to produce and provide publicity material intended to encourage more people to take up the hobby of Amateur Radio.

Meeting Program

The December Council Meeting will be held on a date yet to be decided. There will not be any General Meeting for the month of December. It is possible for January that, instead of the usual format, a social event will be organised. I suggest you keep tuned to the VK5WI Sunday news broadcasts for more news on this. You might also note that there will be the usual brief recess in the broadcasts over the Christmas/New Year period.

QSL Cards for VK5MIR Contacts

Some delay has been experienced in connection with scanning and preparation of

photographs for use on the commemorative QSL cards for voice contacts with VK5MIR.

Requests for the QSL card are slowly coming in.There may be some delay allowed so that a general idea can be gained as to how many cards should be printed. Full details regarding QSLing for the card were provided in the November 1998 issue of *Amateur Radio*.

Further Changes

I understand that this December issue of *Amateur Radio* is the last to be produced under the present contract with vk3br Communications Pty Ltd.

I would thus wish to express my gratitude to Bill Roper VK3BR for the assistance and co-operation he has shown to me in connection with my contributions to the magazine on behalf of the Division. Bill has always been helpful and at times shown great patience with my various foibles where it comes to trying to express an opinion for this part of the country. Thanks for a well done job, Bill.

Christmas Greetings

I wish to extend Christmas greetings to all members of the WIA and readers of this column on behalf of the South Australian Division of the WIA.

Personal greetings and wishes from both my wife Sylvia and myself that the Christmas season will be a blessed and beneficial one for you and that 1999 will be a happy and successful year in whatever activities you are pursuing.

Ian J Hunt VK5QX
Divisional President

VK6 Notes

FM Field Day

Did you have a go at the FM Field Day in October? I managed to make a few contacts, and was impressed by the efforts which some individuals went to. I didn't hear many Novices, though, so perhaps they'll do better next year. Speaking of next year, hopefully I'll be able to tell you the results of the Field Day by then!

Powerless?

How many amateurs are able to operate their full station without mains power for any extended length of time? It would be interesting to list how many stations in VK6 could operate without mains power. If your station could be classified as "Powerless Wireless", I'd appreciate hearing from you.

Council Meeting

The following is drawn from the minutes of the WIA Council Meeting on 3 November 1998.

Phil VK6SO explained the Hills Amateur Radio Group's (HARG) proposal to establish an automatic Morse practice beacon on 3555 kHz, complementary to the existing service from VK6RCW on 147.375 MHz. After considerable discussion, Council agreed that there was a role for an 80 m Morse Beacon. Council was prepared to assist with estimated cost of power up to $150 pa and, if necessary, an additional licence fee of $50 pa. Software employing the Farnsworth method of character spacing should preferably be employed.

Business Arising from Previous Meeting:

1. Dave VK6IW is still working on suggestions to *Amateur Radio* magazine about improvement to the new members list. The following matters are pending:
(a) Looking into a common Yellow Pages entry for the WIA in all States;
(b) The request for a catalogue of old records held by Dave VK6ATE; and
(c) The enquiry from the Battye Library of what old records are held.
2. The letter proposed to Clubs concerning the outcomes of the last Conference and alternative dates for a future Conference is again carried forward.
3. The proposed letter to the Federal President requesting that the Liaison Team meet with the ACA has been despatched.
4. The proposed letter to Federal conveying the concern of Clubs about apparently high examination fees is carried forward.
5. The Radio Course textbooks have been returned from the publisher with corrections inserted.
6. Doug VK6ER had been advised about the preferred method of reporting intruders.
7. The bookshop stock is to be transported to Hamfest by Cliff VK6LZ, not John VK6IM.
8. Nominations for "Amateur of the Year" had been called for on the broadcast but, as no nominations had been received, Council decided that no award would be made this year.
9. Will VK6UU has been in touch with the NCDXA concerning the replacement of the borrowed HF antenna for VK6RBP. It was agreed that the old antenna (type R5) would be sold and the proceeds made available to NCDXA. A request would be made to NCDXA to source a second-hand type R7 as a suitable replacement.

Correspondence: The Secretary reported on the following:

1. The licence renewal for VK6RBP had been received. It was agreed that the Division would arrange a renewal for five years for $168, (thus achieving a significant saving over 5 x $50) and seek reimbursement from Federal.
2. A letter had been sent to the insurance broker seeking confirmation that "unqualified" tower climbing volunteers were covered by the Division's Accident and Public Risk insurance policies.

Reports:

1. Treasurer: Bruce VK6OO sought approval for payment of accounts P40-P47.
2. Membership: A new member in Mr Peter Gregory (SWL) was welcomed to the Division.
3. Broadcast: Tony VK6TS offered a vote of thanks to Mel VK6TVA for presenting the News Service on Sunday, 1 November during Tony's absence interstate. The next Broadcast would originate from the Hamfest site at Ashfield. There had been a disappointing attendance at the first "On-air Monthly Meeting Net". However, the net will continue, with country members in particular encouraged to check in on 3564 kHz.
4. Federal: (At this point Wal VK6KZ left the meeting). Will VK6UU reported on a number of matters including:
(a) The postal motion which encouraged the Liaison Team to co-opt members had been passed.
(b) The President's report to Federal Councillors. There would be a teleconference on 21 November.
(c) There was advice from the Federal President about progress with an ACA Liaison Team meeting schedule with ACA. An agenda of topics was proposed and additions sought. The agenda topics included the 80 m DX window; a VLF allocation; conversion of some frequency allocations from secondary to primary; the examination system; the use of the ACA data base for Call Book purposes; EMR regulations; and special callsign authorisation.

Further possible topics were proposed by Will VK6UU and by the Council, including the ACA attitude to HF Gateways; 29 MHz gateway linking; FM deviation below 28 MHz restricted to +/-3 kHz bandwidth (why cannot wider bandwidths be allowed with self regulation controlling possible excessive applications?); the retransmission on repeaters of licence grades not authorised for the repeater output frequency or mode is not at present allowed - why cannot this regulation be relaxed?; the need for advice by the ACA to the WIA about policy changes brought about by representations other than by the WIA; what is the ACA attitude in principle to the establishment of an examination free licence grade with strict conditions?; the need to address possible inaccuracies in the ACA Internet Page, for example "Why should policy limit repeater linking to three stages?", "The absence of 50 MHz 'drop through' approvals from the relevant list.", and "The apparent requirement that callsigns for

beacons be limited to the RSa-z and RTa-z block, where repeater calls may be from the entire Raa - Rzz block."; the Amateur Service is still over regulated - there is a need to simplify regulations - what steps can be taken to achieve this aim?; at the edge of the 80 m DX window, amateur operators are exhorted to keep clear of 3794 kHz - what is the allocation that requires this to be so?; what is the status of reciprocal licence negotiations with Austria, Korea, Peru, etc?; and why are VK9 callsigns not up-to-date in the ACA database?

(d) The minutes of the Special Council Meeting called to discuss the Draft Business Plan were discussed. It was agreed that the proposed draft postal motion be changed to a "recommendation". The Federal Councillor will follow up accordingly.

General Business:

1. The matter of the election of President to replace Wal VK6KZ, who resigned in May 1998, was discussed. Vice President Cliff VK6LZ, presently acting President, accepted nomination as President and was duly unanimously elected.
2. Concerning the proposed WIA Group Repeater/Beacon site, Don VK6HK reported that the latest advice from the Site Management Committee was that they had no objection to the proposal to establish a WIA Group Repeater/Beacon site there. However, the proposal had been forwarded to their parent body CEO for consideration at their committee meeting scheduled for 17 November 1998. An offer had been made for a WIA representative to attend if required.

Wanted! A Scribe

Would anyone else like to have a go at writing this column? As you have seen, there are times when the column goes wanting, simply because it has a lower priority than other facets of life.

A suitable volunteer should be at least semi-literate (able to type with one hand?), will need to dedicate about three to four hours to writing the column every second or third month, and would benefit from having e-mail and/or packet access.

Merry Christmas

Both Chris and Chris would like to wish you a very safe and Joyous Christmas, and may '99 have more sunspots than '98!

Chris Hill VK6KCH

"QRM" News — VK7 Notes

First of all, I must thank Robin VK7RH for filling in for me with the November notes while I was over on the "island up north".

While over there I had a good chat to the South Australian President, Ian Hunt, and Federal Director Martin Luther. It's great to be able to just sit down with these people and find that, with slight variations, the same problems are all around us! Good also to be able to renew acquaintance with my "old" (don't take that the wrong way) sparring partners in the Federal office, and *Amateur Radio* guru, Bill Roper VK3BR.

JOTA

JOTA overall was a good exercise around Tasmania this year with a lot of contacts around Australia and New Zealand and, due to better conditions, a lot of contacts around the world.

We do have a problem, though, with the time zones for Scout/Guide groups overseas. Band openings and convenient times don't match well and our Tasmanian Summer time change puts the North American openings very late in the night for kids.

QSL Cards

Do other states have problems with Amateurs not wanting their QSL cards? John Bates VK7RT, our QSL manager, is having big problems with this, particularly from non-WIA hams. What must overseas hams think of us when they get no card in return?

History

Our historical officer, Richard VK7RO, is updating our records and any photos, newspaper clippings, etc will be appreciated.

The old callsign of the Southern branch, VK7SB, has been revoked and the historical callsign, VK7OTC, has now replaced it. This callsign commemorates the fact that our Clubrooms in Hobart were the home of the Overseas Telecommunications Commission on the high Domain site before the Institute took it over. The Hobart City Council is placing a large sign at the gates setting out the historical importance of our site.

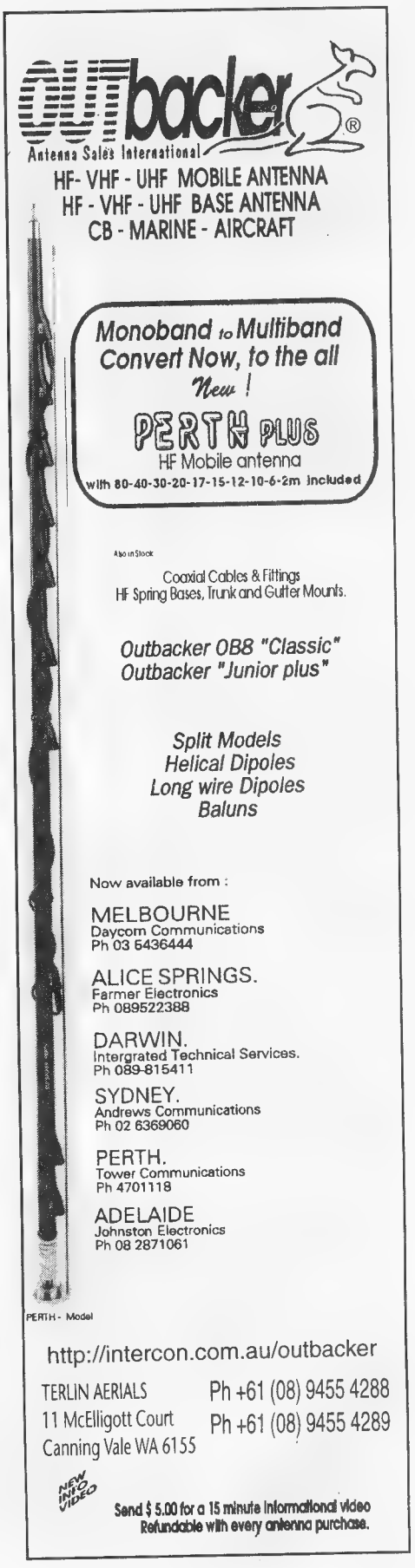
Meetings

Our bi-monthly Divisional Council meeting is on Saturday, 14 November, just too late for a report this month. Our Council meetings are open to all members and, with the Business plan discussions scheduled, I think there will be a good rollup.

The Northern Branch had an excellent November meeting with the Curator of the planetarium at the Launceston Museum – fascinating! December sees the final meetings of the three Branches, all social functions.

Your Tasmanian brethren wish all our fellow Amateurs a happy, wonderful and blessed Christmas season.

Ron Churcher VK7RN
Division President **ar**



Over to You

All letters from members will be considered for publication, but should be less than 300 words. The WIA accepts no responsibility for opinions expressed by correspondents

Value of HF Radio

Recently I visited the School of the Air base at Alice Springs. In a large and informative display room, I saw details of how modern technology has become part of outback families' communication needs. Radphone and satellite TV are now common, and every child enrolled in the School of the Air is given a computer and modem for internet access and e-mail.

The obvious question had to be asked: "Is HF radio still used for communication?" The answer was a resounding "Yes".

The School of the Air still conducts its daily lessons on HF radio, for the simple reason that most of the other communications equipment at the homesteads require power at mains voltage. It is expensive to run diesel generators during the day so they are switched off. This leaves only battery power. Every homestead still has an HF radio and all that is required to run it is a car battery. Its use is also virtually free of cost, unlike the other services which are time charged. So HF radio is still widely used.

Isn't it nice to think that even in this age of high tech satellite communications, good old HF radio still has its place.

Peter Stuart VK2BEU
24 Carmen Drive
Carlingford NSW 2118

Thanks

The survival of the hobby of amateur radio in Australia depends upon a strong representative "trade union" body. That "voice for amateur radio" society is, and can only be, the WIA, which should be actively supported by every radio amateur interested in the future of the hobby.

A vital thread that helps to hold the WIA together is its monthly journal, *Amateur Radio*.

Amateur Radio commenced publication over 66 years ago. I first became involved with "our" magazine 35 years ago, and it has been a privilege to have been associated with this *"forum for dissemination of WIA news, members' technical experiments, experiences and opinions"* for such a long time.

However, all things must end sooner or later. Even though a positive aspect for me of the difficult decision made by the Federal Directors is that I can now freely accede to the beckoning of new horizons, I am sad that this issue of *Amateur Radio* finally marks the end of my commitment to its publication.

I would like to thank all those many radio amateurs who contributed to *Amateur Radio* during my period of involvement. In particular, I would like to express my gratitude and appreciation publicly to the Editor, the Publications Committee, and the terrific band of columnists and contributors who have made my task of producing the magazine so interesting and rewarding over the past five and a half years. I will miss my regular monthly communication with you all! Hopefully, the regular communication by post, telephone, fax and e-mail will be replaced by many on-air contacts.

Despite the "voices of doom", I believe strongly that the great hobby of amateur radio will survive beyond the foreseeable future.

I wish the WIA, all its members, and *Amateur Radio* magazine a long and successful future.

Bill Roper VK3BR
3 Tamar Court
Mentone VIC 3194

Licensing by the WIA?

I refer to the *Editor's Comments* on page 2 of the November issue of *Amateur Radio* by Bill Rice.

It is disturbing to read that the WIA membership has dropped from 8,000 in 1988 to a current figure of about 4,000 - dramatic indeed!

One could come up with several reasons for this severe decline but I doubt if the discussion would achieve much. Rather, may I make a suggestion for a move in a new direction?

The writer has discussed the membership problem with many Hams in recent months and most (not all) are prepared to consider a scheme whereby the annual licence fee would include automatic membership of the Institute.

As I've stated, not ALL are in agreement, but most of those asked. It is very obvious that about 4,000 paid-up members are looking after the interests of about 16,000 VK licensees!

If the WIA could negotiate a deal with the ACA whereby the WIA would be responsible for the collection of Licence Fees and the issue of callsigns, etc, the matter of membership would be resolved.

Such a deal would pave the way for a reduction in the cost of the membership component, which seems to be the main reason for the drop in WIA members.

The idea is simply another move towards privatisation of a Government service. Without it, I doubt the viability of the WIA beyond the turn of this century!

Max Morris VK3GMM
PO Box 222
Rye VIC 3941

JOTA

Please find enclosed photo (see front cover of this issue of *Amateur Radio*. . .Ed) and copy of the article it was printed with, together with a copy of a release for publication if you choose to publish them at sometime.

The article appeared in the *Townsville Bulletin* on Monday, 19 October, and relates to the JOTA station VK4SBW that I, along with my XYL Sheila (yes, that's her name!), was running over the JOTA weekend.

The station was set up at the Bluewater Scouts Site incorporating Camp Tamaroo, which is located approx 30 km north along Highway One from Townsville.

For antennas I used a dipole cut for 80 m and another for 20 m strung up into the trees, aligned as best I could to give a north-south output direction. Some 2 m antennas were also strung up as high as possible, to enable local area simplex channel chats.

At the moment the Scout group does not have many older members, who have in previous years worked the bands till all hours, and so I was able to enjoy a bit more sleep than on many previous occasions!

There was also a special Saturday night dinner and presentations, it being the tenth anniversary of the Group and the site. I have worked the past six JOTA weekends with this group as some of my work mates helped set the camp up back then.

In the Townsville area, members of the Townsville Amateur Radio Club Inc had eleven separate active JOTA stations scattered around the Townsville district, most of which were "bush bashing" for the event. I might even suggest that the JOTA weekend is a practice field day, when we all want to see how well we are prepared for our cyclone season (the John Moyle Field Day always comes at the end of cyclone season!).

Iain Morrison VK4IGM
PO Box GE 6
Garbutt East QLD 4814

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New AR Addresses

See page 1 for new addresses and telephone numbers!

Intruder Watch

Gordon Loveday VK4KAL
Federal Intruder Watch Co-ordinator
Freepost No 4, Rubyvale QLD 4702
Tel: 07 4985 4168
Packet: VK4KAL@VK4JEM-1

Some changes are in line for the Primary Intruders. This has been brought about by perusal of observer log sheets since the last Summary in *Amateur Radio*.

Some may doubt the wisdom of such a move, but possibly the majority will be unaware that "the few" are serious about defending the legal bands we all like to make use of, regardless of which operating class we are in.

Some frequencies, we will HAVE to LIVE with. I refer to the Single Letter Beacons, known as "SLBs". Admittedly they are illegal, but of nuisance value only and, in my opinion, can be put into the same category as "the birdies" in the receiver! We all know they are there, so let's forget them and put our efforts into frequencies we have more chances of success with.

This brings to mind 3560 kHz. Yes, it comes from Pyongyang, Korea, but how often do we take time to really listen to voice transmissions, to try for those vital statistics that are important for us to forward on as proof of their transmissions on 80 m. I take this frequency as an example; there are many more.

Harmonics are a good starting point. All our bands abound in this form of intrusion. Start looking for them, as these have a very good chance of being removed. Why? Because no self respecting station manager or technician can bear to have his station being accused of "unclean" transmissions. But remember, we want full information as to frequencies, etc, plus any "titbits" of station program which can match the offending station log.

We have a report of the fifth harmonic of 2.850 MHz coming out at 14.250 A3E. Station Pyongyang again - S3. This is a staggering signal, heard from 2000z to 1800z the next day. As you will note, the fundamental signal is outside our band but the interference is not.

The 10 m band is coming to the fore with increasing intrusions. Those capable of checking FM should do so from 28.150 to 28.138 MHz; the language is possibly Asian. This intrusion has all the "trade marks" of one reported a few years ago, which turned out to be a Thai trucking company! The 10 MHz band should be checked out also, as commercial intrusions have been logged there.

A relatively new intruder to our region is to be found on 28.650 MHz on A3E. The ID is Radio Havana, Cuba, possibly a third harmonic of 9550 kHz. It is heard about 0600z daily but no further data is available. This was mentioned last month.

So a slight update of Primary Allocation will be to remove 7.039.5 and insert 28.650 MHz.

I am reviewing the RTTY stations. It seems that if we get insufficient information from a non readout, it may pay to address the voice transmissions, which could be a better proposition.

As a matter of interest I've been looking through the July non amateur intrusions for the African Area of Region 1. We don't have any intruders, compared to that area, but we share quite a lot of phone stations on both 40 and 20 metres.

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Intruder Watch Summary for October

FREQ	UTC	EMM	DETAILS
7.098	0005	A3A	ID Jakarta Indonesia
14.0018	0500	F1B	RTTY, 850 Hz shift, 72 Baud?
14.003	0940	F1B	Also A3C, RTTY & Fax
14.126**	0638	F7B	3 ident chs, 240 Hz, 144 bd, sp 1 kHz,
14.211	0652	F1B	RTTY, 850 Hz, 100 bd, tfc
14.250**	0930	A3E	Pyongyang, 5H/2.850 MHz, Korea Nth
18.075	1150	J3E	Non Amat net, Hindi + RTTY, India
18.075	1240	A3E	Weak English prog de India, Commercial
28.215**	0010	A3E	2 way non amateur, Commercial, ID?
28.650**	2226	A3E	R Havana, Eng/Sp, 3H of 9550, weak, Cuba

Note** indicates Primary Frequency.

Club News

Gippsland Gate Radio and Electronics Club Inc (GGREC)

Amateur Operators Certificate Course - 1999

The GGREC will be conducting a radio class in February for persons wishing to obtain an amateur radio operators licence. The class will be held in Cranbourne on Wednesday evenings from 7.00 to 9.30 pm for twenty weeks from 3 February.

Level of Study

While the courses will aim for AOCP (Full license) standard, persons studying for NAOCP (Novice) and Novice-Limited examinations will be catered for. There are no prerequisite qualifications for attendance to the class - all are welcome.

Fees

The fee for the course will be $125 plus a mandatory one year subscription to the GGREC Radio Club ($30). This fee includes regular newsletters. Fees are payable on the first class night. Discounts on the *subscription* portion apply to Students, Pensioners and Family members.

On the week following the class, an examination will be conducted at the same venue for a separate fee.

For further information, call Ian Jackson VK3BUF on 9776 5000. Or visit the clubs Web site at *http://avoca.vicnet.net.au/~ggrec* . Call early as positions on the class are limited.

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RAC Dues Decrease

On the international scene word that Radio Amateurs Canada has rescinded its recently imposed $10 annual dues increase. Radio Amateurs Canada says that a major restructuring plan led to an operating expense reduction of $80,000. This reduction is being passed along to members of the national society.

[Via Radio Amateurs Canada]

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HF Predictions

Evan Jarman VK3ANI
34 Alandale Court, Blackburn VIC 3130

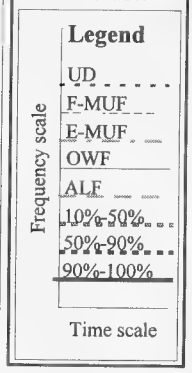
These graphs show the predicted diurnal variation in key frequencies for the nominated circuits.

The frequencies, identified in the legend, are:-

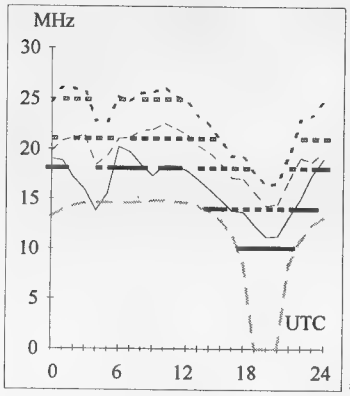
- Upper Decile (F-layer)
- F-layer Maximum Useable Frequency
- E-layer Maximum Useable Frequency
- Optimum Working Frequency (F-layer)
- Absorption Limiting Frequency

Also shown hourly are the highest frequency amateur bands in ranges between these key frequencies; when useable. The predictions were made with the Ionospheric Prediction Service program ASAPS version 4. The path, propagation mode and Australian terminal bearing are also given for each circuit. **ar**

December 1998
T index: 109



Adelaide-Accra 242
First F 0-5 Short 14682 km



Brisbane-Auckland 123
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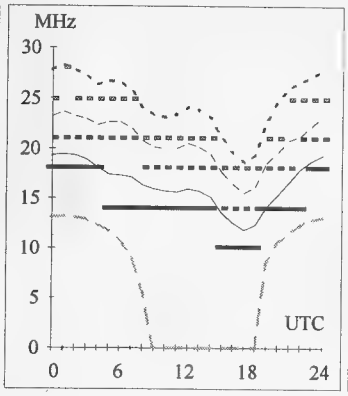

Adelaide-Moscow 318
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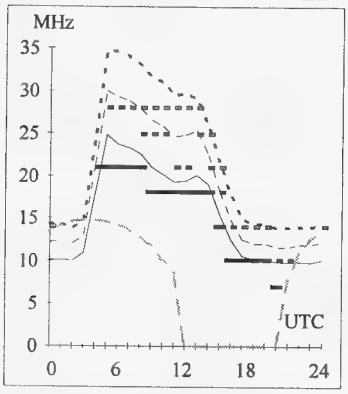

Brisbane-London 147
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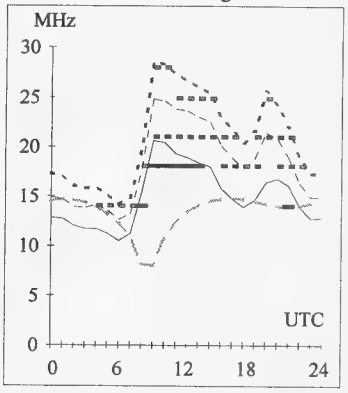
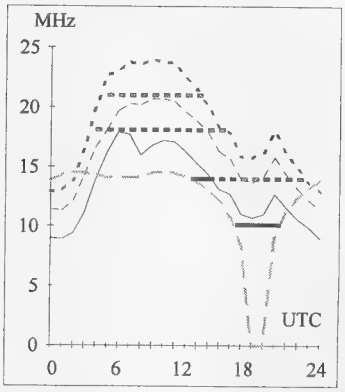
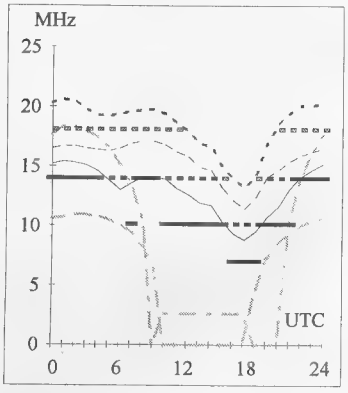


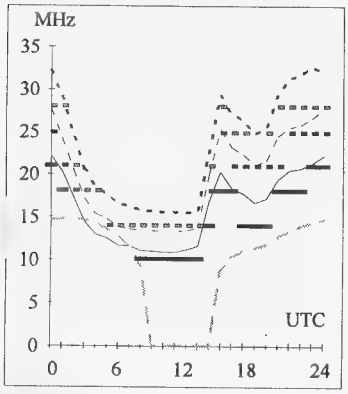
Canberra-Capetown 219
Second 4F4-13 4E0 Short 10778 km



Darwin-Invercargil 144
Second 3F12-21 3E2 Short 5157 km



Adelaide-Ottawa 58
First F 0-5 Short 16901 km



Brisbane-London 327
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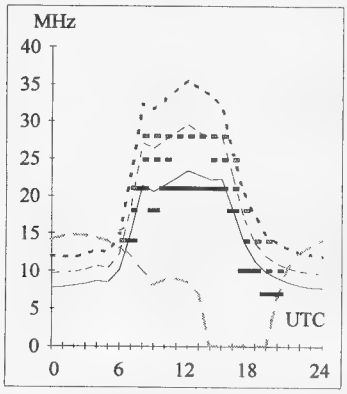
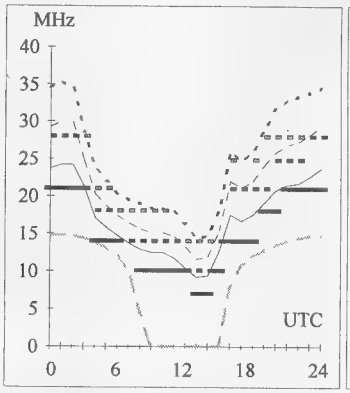


Canberra-Los Angeles 62
First F 0-5 Short 12309 km



Darwin-Paris 322
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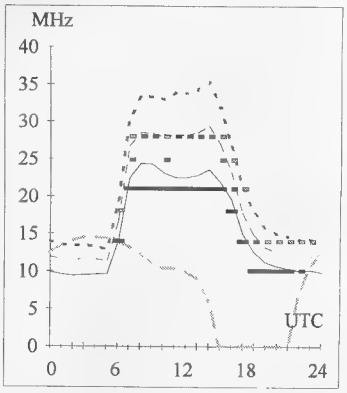
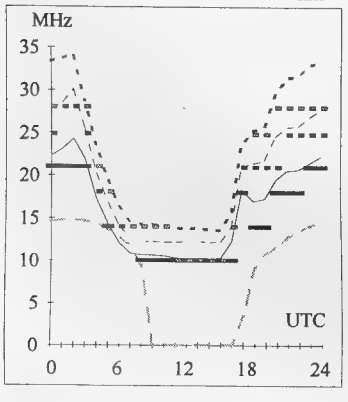


Adelaide-Vancouver 49
First F 0-5 Short 13421 km



Brisbane-Manila 320
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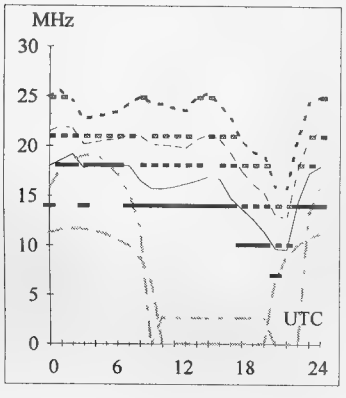
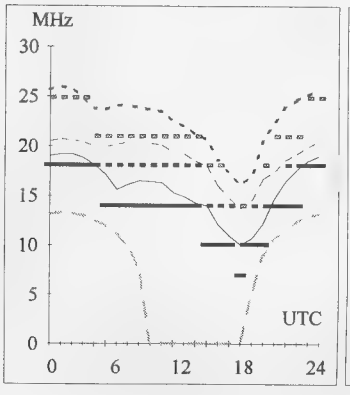
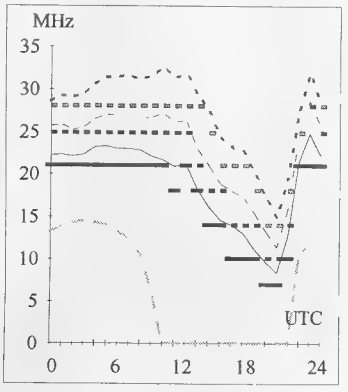


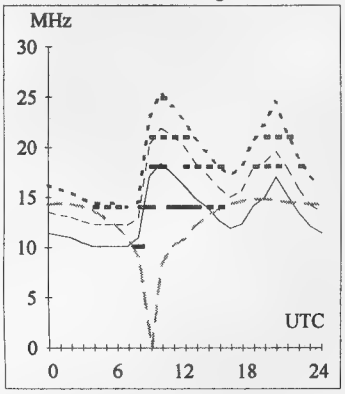
Canberra-Wellington 114
First 1F7-13 1E0 Short 2325 km



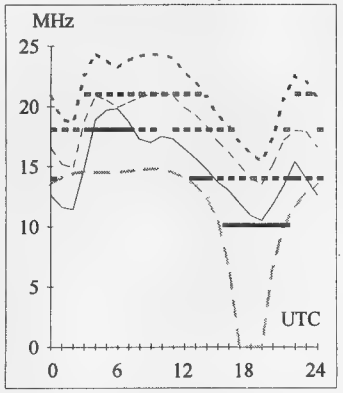
Darwin-Tokyo 10
First 2F4-10 2E0 Short 5437 km



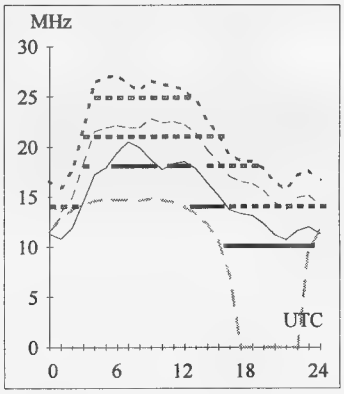
Hobart-London 123
First F 0-5 Long 22619 km



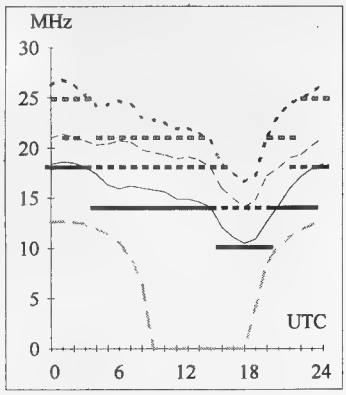
Melbourne-Lusaka 241
Second 4F4-11 4E0 Long 11152 km



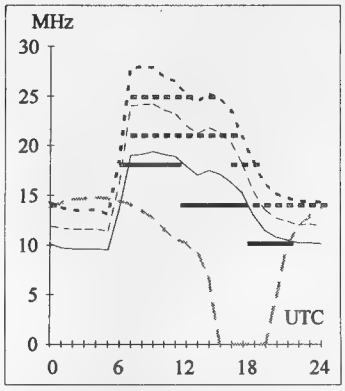
Perth-Johannesburg 248
First 3F4-11 3E0 Short 8315 km



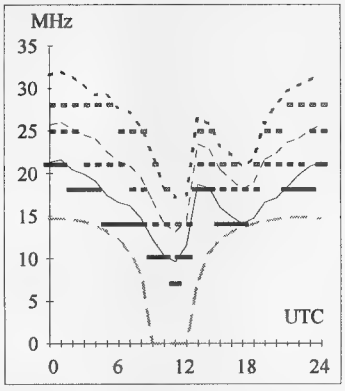
Sydney-Auckland 106
First 1F8-15 1E0 Short 2159 km



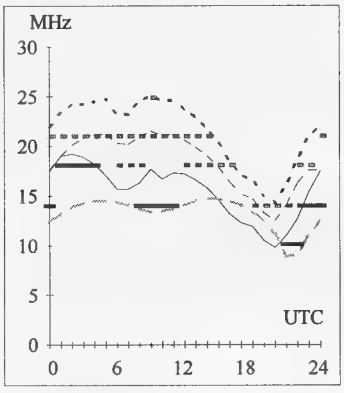
Hobart-London 303
First F 0-5 Short 17404 km



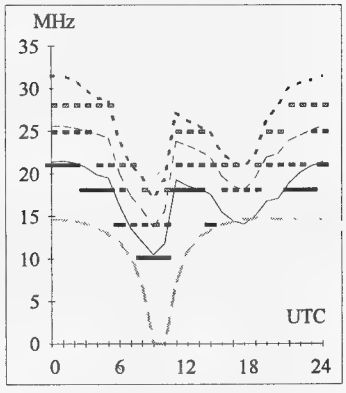
Melbourne-Miami 94
First F 0-5 Short 15584 km



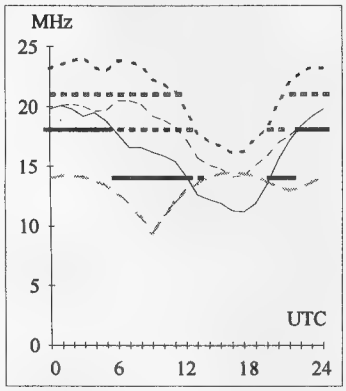
Perth-Rio de Janeiro 203
First F 0-5 Short 13523 km



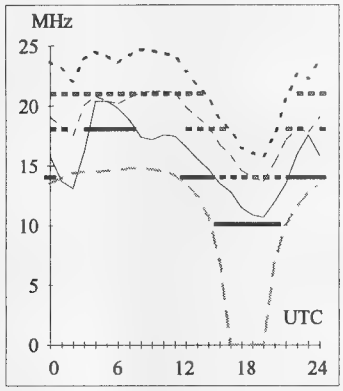
Sydney-Barbados 119
First F 0-5 Short 16155 km



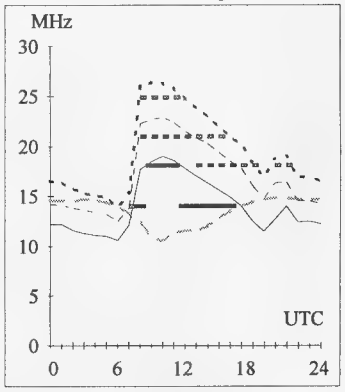
Hobart-Montevideo 161
Second 4F8-10 4F0 Short 11043 km



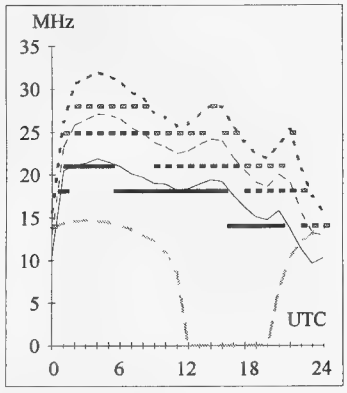
Melbourne-Nairobi 255
Second 4F3-10 4E0 Short 11562 km



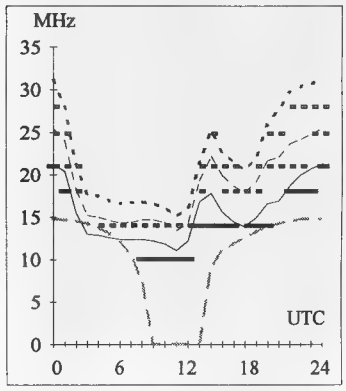
Perth-Rome 123
First F 0-5 Long 26684 km



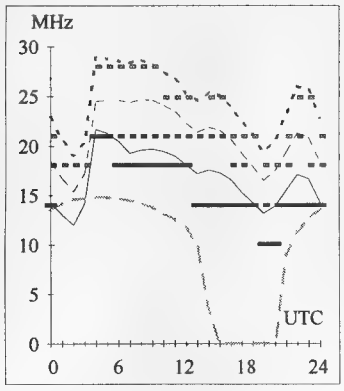
Sydney-New Delhi 302
Second 4F5-11 4E0 Short 10419 km



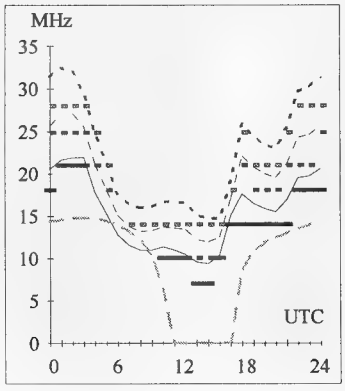
Hobart-New York 80
First F 0-5 Short 16610 km



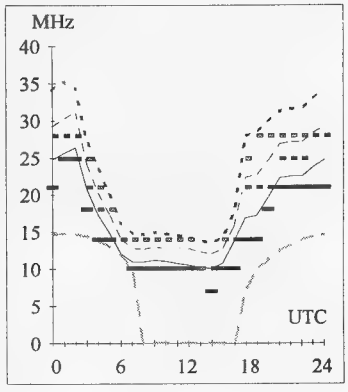
Melbourne-Tel Aviv 287
First F 0-5 Short 13766 km



Perth-San Francisco 66
First F 0-5 Short 14743 km



Sydney-Seattle 47
First F 0-5 Short 12471 km



HAMADS

• Hamads may be submitted on the form on the reverse side of the *Amateur Radio* address flysheet. Please use your latest flysheet where possible.
• Please submit separate forms for **For Sale** and **Wanted** items, and be sure to include your name, address and telephone number (including STD code) if you do not use the form on the back of the *Amateur Radio* address flysheet.
• Eight lines (forty words) per issue free to all WIA members, ninth and tenth lines for name and address. Commercial rates apply for non-members.
• Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment.
• WIA policy recommends that the serial number of all equipment offered for sale should be included in the Hamad.
• QTHR means the address is correct in the current WIA Call Book.
• Ordinary Hamads from members who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
• Commercial advertising (Trade Hamads) are pre-payable at $25.00 for four lines (twenty words), plus $2.25 per line (or part thereof), with a minimum charge of $25.00. Cheques are to be made out to: WIA Hamads.
• Copy should be typed or in block letters, and be received by the deadlines shown on page 1 of each issue of *Amateur Radio*, at:

New ⇨

Postal: PO Box 2175, Caulfield Junction VIC 3161
Fax: 03 9523 8191
E-mail: armag@hotkey.net.au

TRADE ADS

● **AMIDON FERROMAGNETIC CORES:** For all RF applications. Send business size SASE for data/price to RJ & US Imports, PO Box 431, Kiama NSW 2533 (no enquiries at office please ... 14 Boanyo Ave Kiama). Agencies at: Assoc TV Service, Hobart: Truscotts Electronic World, Melbourne and Mildura: Alpha Tango Products, Perth: Haven Electronics, Nowra: and WIA Equipment Supplies, Adelaide.

● **WEATHER FAX programs** for IBM XT/ATs *** "RADFAXZ" $35.00, is a high resolution short-wave weather fax, Morse and RTTY receiving program. Suitable for CGA, EGA, VGA and Hercules cards (state which). Needs SSB HF radio and RADFAX decoder. *** "SATFAX" $45.00, is a NOAA, Meteor and GMS weather satellite picture receiving program. Needs EGA or VGA & WEATHER FAX PC card, + 137 MHz Receiver. *** "MAXISAT" $75.00 is similar to SATFAX but needs 2 MB of expanded memory (EMS 3.6 or 4.0) and 1024 x 768 SVGA card. All programs are on 5.25" or 3.5" disks (state which) plus documentation, add $3.00 postage. ONLY from M Delahuntly, 42 Villiers St, New Farm QLD 4005. Ph 07 358 2785.

FOR SALE NSW

● **Drake TR7** txcvr in good condn, excellent for serious amateur radio operator, recently checked and calibrated by accredited Drake service agent, $850 ONO. Max VK2AML 02 9797 0593.

● **Yaesu FT-101** HF txcvr, good condn, mic, headset, manuals, $300 ONO. Bert VK2VBY, 02 4443 9862.

● **Yaesu FT-707** HF txcvr, s/n 0L121143, full report from recent Yaesu service, **YM-35** mic, manuals, cords, box. **FP-707** PSU, s/n 2C170410, manual, cords. **FC-707** ATU, s/n 1C100318, manual, cords. All units very good to excellent condn. $750 the lot, ONO. Evan VK2HES, 02 6762 0595.

● Deceased estate Ken VK2CBI: **Yaesu FT-101E** txcvr, $300. **Heathkit SB300** SSB Rx, **SB400** SSB Tx, $500 the pair. **Kenwood TR-7400A** 2 m FM txcvr, PSU, magnet base, antenna, $150. **Kenwood AT-200** ATU and dummy load, $200. **Leader LSG10** HF signal generator, $40. **University HF signal generator and sweep**, $30. **Siltronix FS1000A** peak reading HF wattmeter, $75. **RCA WO33A** audio CRO, $30. **AWA Voltohmyst** VTVM, $20. **AWA MR6** carphone (6 m) and PSU, $30. **Eddystone 640** HF receiver, $50. **Escort EDM1111A DVM**, $10. **ANX VOM**, $10. **Hung Chang VOM**, $10. **MFJ 812B** SWR meter, $50. **MFJ 16010** random wire tuner, $50. **MFJ 202B** Rx noise bridge, $75. **AWA audio signal generator** (to 13 kHz), $10. **Various kits:** 1 GHz frequency counter, digital capacitance meter, QRP Tx, QRP rcvrs, etc, $100 the lot. **Various components:** roller inductor, air variable capacitors, enamel coil winding wire, resistors, capacitors, semiconductors, patch cords, logic probes, signal tracers, etc, $75 the lot. **Power transformers, new, unused:** 2 x DSE M2155, $5 each; Jaycar MM2004, $10; Altronics M21, $30. **Soldering irons:** four including one temperature controlled DSE T1975, $100. David VK2IX, 02 4751 6124 or Steve VK2AVW, 02 4751 3594.

● **Commercial UHF txcvrs, tuned to 70 cm**, from $30 each. **Icom IC-2 and IC-02 handhelds**, with BP7 batteries, in reasonable condn, $100 each. **Ten-Tec Dentron ATUs**, $50 each. **Kenwood AT-200 ATU**, $120 ONO. David VK2BDT, QTHR, 02 4821 5036.

● **Kenwood TS-50S** txcvr, as new, boxed, used on several occasions only, complete with manual and accessories, $1150. Optional AT-50 available if required. John VK2AYC, 02 9583 2056.

● **Yaesu FT-736R** 6 m/2 m/70 cm all mode base station txcvr, full duplex operation, VGC, $1600. **Yaesu FT-26R** 2 m handheld txcvr, dricell battery pack, spk/mic, DC power lead, VGC, $220. Chris VK2YMW, QTHR, 02 9487 2764.

● **Icom IC-2GAT**, s/n 05612, mint condn, boxed, with all accessories, plus carry case, $385 ONO. Steve VK2SPS, 02 4334 7743 after 6.30 pm.

● **3-500** transmitting valves, $200. **Q-04** (equivalent of 4-400) $60. Tom VK2OE, 02 9482 1565 (evenings).

FOR SALE VIC

● **Yaesu FT-101** with ext VFO **FV-101**, s/n 1H110409, $75. **Rotator**, large, no controller. **Kenwood TS-450SAT** with autotune, s/n 30700843, $1200. **Kenwood PS-32** PSU, s/n 30300027, $150. **LF30A** 1 kW PEP low pass TVI filter, $50. All as new. Keit VK3AFI, QTHR, 03 5221 3658.

● **Icom IC-W2A** 2 m/70 cm handheld, mint condn, hardly used, s/n 12371, with cable, pouch, UT-63 tone squelch, 5 watt, 62 memories, $375 ONO. Bob VK3BRF, QTHR, 03 9878 6613.

● **IFR-1500S** communications service monitor, fully optioned AM/FMN/FMW/SSB, 0-1 GHz, in ex condn, $10,500. Due to ill health and close of business no longer required. Rick VK3YM, 03 9401 4442, fax 03 9408 7112.

● **Philips FM92** 2 m txcvr, programmed, with all accessories, $85. **Tokyo Hy-Power ATU**, 2 kW PEP, vernier drives, $450. **Yaesu FC-107** ATU, $180. **Icom IC-290H** all mode 2 m txcvr, $450. T Marlowe VK3OK, 03 9808 1705.

● **Icom IC-2A and IC-4E** handheld txcvrs, EC, complete with original boxes, manuals, spare BP3 battery packs, LC3 cases, HM9 spkr/mics, $125. Graeme VK3NE, QTHR, 03 9338 1018 (AH).

● **Nally tower**, on ground ready to go, plus CDE heavy duty rotator with cable, in EC, $1250 ONO. Barry VK3ANR, 03 5244 0347.

FOR SALE QLD

● **Kenwood TS-430S** txcvr, $750. **Kenwood TS-440S** txcvr with auto ATU, $980. **Daiwa CNA-1001** auto ATU, $160. **Yaesu FC-102** ATU, $280. **Yaesu FL-2100Z** linear amplifier, two new spare tubes, $860. **PS-30 PSU**, 20 A, $160. F S Nicholls VK4ASN, 07 3207 2050.

● **Kenwood TM-241A** txcvr, 144 MHz. **Yaesu FT-712RH** txcvr. **4 position coaxial switch** with lightning surge protection, 0-500 MHz. **Kenwood PS-50** PSU. **Kenwood TS-790A** 144/420/1200 MHz all mode tri-bander. **Timewave DSP-2232** DSP modem, never used. **Kenwood MC-80** mic. Quantity of plugs and other fittings. No longer able to use this equipment due to disability. All for sale at a fair price either separately or together. All manuals available with the gear. Bill VK4YWY, 7 Curran Close, Bray Park QLD 4500.

● **Radio Shack DX-394** communications receiver, near new, hardly used, good performer with many features, $210. Ron VK4BL, QTHR, 0418 233 372, *vk4bl@tpgi.com.au* .

● **Kenwood TS-50** HF txcvr, s/n 50403167, little used, incl narrow CW filter, $1400 ONO. Bill VK4BIL, QTHR, 07 3263 2630.

● **Kenwood TS-430S**, s/n 6050959, good condn, both manuals, mobile bracket, Kenwood scanning mic, $700. Alan VK4IH, 07 4685 2391.

FOR SALE SA

● **Hy-Gain TH3 Mk3** tri-band antenna, with instruction manual, $100. Ted VK5KEW, 08 8552 3885.

● **Icom IC-720A** HF txcvr, mic, manual, excellent condn, $625. Hans VK5YX, QTHR.

● **Kenwood TS-130S**, **AT-130** ATU, ext **120 VFO**, **MC-50** desk mic, mobile bracket, service manual, all other manuals, EC, $830. **Ranger AR-3500**, with operators and technical manuals, $360. More for sale. Send SASE for list. Paul VK5MAP, QTHR, phone/fax 08 8651 2398.

FOR SALE TAS

● **Kenwood TS-520S** HF txcvr, built-in CW filter, PSU, excellent condn, boxes, manuals, $395. Allen VK7AN, 03 6327 1171, 0417 354 410.

WANTED NSW

● WANTED STILL! **Old unloved, dusty receivers**, working or not, parts or junkers, for listener and budding restorer, even the big heavy ones, (still yet to get a hernia, now there's a challenge!), will pay dollars if needed. Clean the shack out time - will even bring a broom to help! John L21068, 02 9533 6261.

● **Kenwood CW filter** for TS-140. **Yaesu XF-30C CW filter** for FT-101E. **Ampex 1100 series** reel-to-reel tape recorder. Ray VK2FW, QTHR, 02 6365 3410.

● **Icom 02A 2 m FM operation manual**, will pay copy costs. Tom VK2ATJ, QTHR.

● **Drake L7** amplifier. **GAP Voyager** antenna. **Butternut HF-6** antenna. Tom VK2OE, 02 9482 1565 (evenings).

WANTED QLD

● **LSI chip SC3062 for Icom 211** 2 m all mode Tx. Will consider a dead Icom 211 or Icom 701 if LSI chip is OK. Chris VK4YE, 07 5543 6053.

WANTED SA

● **Micronta 22-202B multimeter operators instructions**. Will pay costs, photocopy will be OK. Paul VK5OK, QTHR, phone/fax 08 8651 2398.

MISCELLANEOUS

● **The WIA QSL Collection** (now Federal) requires **QSLs**. All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose VIC 3765, tel 03 9728 5350.

● If you got your licence before 1973 you are invited to join the **Radio Amateurs Old Timers Club**. A $2.50 joining fee plus $5.00 per year gets you two interesting Journals plus good fellowship. Arthur Evans VK3VQ or Milton Crompton VK3MN can supply applications forms. Both are QTHR in any Call Book.

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Silent Keys

Due to space demands, obituaries should be no longer than 200 words

The WIA regrets to announce the recent passing of:-

B G	Powell	VK2AIZ
V (Frank)	Waller	VK2EHY
L A	Chappell	VK7LC

Frank Waller VK2EHY

Frank Waller from Nelson Bay passed away on Sunday, 18 October 1998 from an illness. He was known to the amateur radio fraternity as VK2EHY.

Frank and I met over three years ago through a family contact and immediately struck up long conversations regarding amateur radio activities.

Like most of us he had radio and electronics in his blood, and was devoted to amateur radio.

I am not an active amateur, but my contact with Frank has encouraged me to finish my regulations and get my licence.

Frank was an active member of the WIA for many years and will be missed by fellow enthusiasts, friends and family.

Ken Jones
WIA Member 294764

Brian Powell VK2AIZ

It is with great sadness we record the passing of Brian Powell VK2AIZ on 12 September 1998.

Brain had battled cancer for the past eighteen months but, regrettably, this has now taken him from us. However, despite the obvious difficulties he experienced throughout this period, Brian always remained cheerful and positive, and maintained an active interest in his hobby.

The way in which Brian faced up to his circumstances and never complained of his fate, not only set an example that would be difficult to follow but was also an example of a man who held a deep faith and belief in his maker.

As a radio amateur, Brian had an inquisitive and inventive streak. He was keenly interested in "home brew", QRP in particular. His shack bears testimony to his belief in a simple, practical approach to the hobby.

Born on 16 July 1930 in London, Brian was first licensed in 1950 as G3HMZ, following a schoolboy interest in crystal sets, obtaining his licence whilst serving as a conscript in the RAF. He emigrated to Melbourne in 1951 and held the callsign VK3AMZ, moving to Sydney in 1957 and his call of VK2AIZ.

Brian actively participated in the activities of the hobby and a number of radio clubs. At the time of his death he was a member of the Hornsby and Districts Club, Westlakes, the Radio Amateur Old Timers, and the WIA.

His friendship, cheery personality and the willing support he gave to his fellow amateurs will be missed by all who knew him.

To his family we extend our sincere sympathy.

John Bishop VK2ZOI
President
Hornsby and Districts Amateur Radio Club Inc

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Mega-Caps

There are at least three companies in the world who are developing very large capacitors for energy storage. These are Evans Capacitor in the USA, Asahi Glass in Japan, Elna Capacitors, and a company in Australia funded by a CSIRO grant.

The Australian company has so far developed a capacitor of 8000 farads at 2.5 V. This capacitor is the size of a small milk carton but due to the method of construction can be in any shape. In the future this type of capacitor will be used for storing bulk energy for use in either emergency situations such as motors and pumps during a power failure, or perhaps a building fire, or for solar powered devices where power is required overnight in remote areas.

The capacitor is based on a form of carbon with an organic insulator. The capacitors can be connected in series to obtain higher voltages but the dielectric cannot be stressed over 2.5 V. This means that care must be taken when charging capacitors in series.

However, they can be charged or discharged at extremely high currents and a short will not cause any damage.

Allan Doble VK3AMD

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WIA Division Directory

The WIA consists of seven autonomous State Divisions. Each member of the WIA is a member of a Division, usually in their residential State or Territory, and each Division looks after amateur radio affairs within its area.

Division	Address	Officers		News Broadcasts	1998 Fees
VK1 ACT Division GPO Box 600 Canberra ACT 2601	President Secretary Treasurer	Hugh Blemings John Woolner Les Davey	VK1YYZ VK1ET VK1LD	3.570 MHz LSB, 146.950 MHz FM each Sunday evening commencing at 8.00 pm local time. The broadcast text is available on packet, on Internet *aus.radio.amateur.misc newsgroup*, and on the VK1 Home Page *http://www.vk1.wia.ampr.org*	(F) $72.00 (G) (S) $58.00 (X) $44.00
VK2 NSW Division 109 Wigram St Parramatta NSW (PO Box 1066 Parramatta 2124) Phone 02 9689 2417 Freecall 1800 817 644 Fax 02 9633 1525	President Secretary Treasurer (Office hours Mon-Fri 11.00-14.00) Web: *http://ozemail.com.au/~vk2wi/* e-mail address: *vk2wi@ozemail.com.au* Packet BBS: VK2WI on 144.850 MHz	Michael Corbin Eric Fossey Eric Van De Weyer	VK2YC VK2EFY VK2KUR	From VK2WI 1.845, 3.595, 7.146*, 10.125, 14.170, 24.950, 28.320, 29.120, 52.120, 52.525, 144.150, 147.000, 438.525, 1273.500 (* morning only) with relays to some of 18.120, 21.170, 581.750 ATV sound. Many country regions relay on 2 m or 70 cm repeaters. Sunday 1000 and 1930. Highlights included in VK2AWX Newcastle news, Monday 1930 on 3.593 plus 10 m, 2 m, 70 cm, 23 cm. The broadcast text is available on the Internet newsgroup *aus.radio.amateur.misc*, and on packet radio.	(F) $69.00 (G) (S) $56.00 (X) $41.00
VK3 Victorian Division 40G Victory Boulevard Ashburton VIC 3147 Phone 03 9885 9261 Fax 03 9885 9298	President Secretary Treasurer (Office hours Tue & Thur 0830-1530) e-mail address: *vk3wi@rint.com.au* Web: *http://www.tbsa.com.au/~wiavic/*	Jim Linton Barry Wilton Rob Hailey	VK3PC VK3XV VK3NC	VK3BWI broadcasts on the 1st Sunday of the month, starts 10.30 am. Primary frequencies, 3.615 LSB, 7.085 LSB, and FM(R)s VK3RML 146.700, VK3RMM 147.250, VK3RWG 147.225, and 70 cm FM(R)s VK3ROU 438.225, and VK3RMU 438.075. Major news under call VK3WI on Victorian packet BBS and WIA VIC Web Site.	(F) $75.00 (G) (S) $61.00 (X) $47.00
VK4 Queensland Division GPO Box 638 Brisbane QLD 4001 Phone 07 3221 9377	President Secretary Treasurer e-mail: *secretary@wiaq.powerup.com.au* Web: *http://www.wiaq.powerup.com.au*	Colin Gladstone Peter Harding Alistair Elrick	VK4ACG VK4JPH VK4FTL	1.825 MHz SSB, 3.605 MHz SSB, 7.118 MHz SSB, 14.342 MHz SSB, 21.175 MHz, 28.400 MHz SSB, 29.220 MHz FM, 53.725 MHz FM, 147.000 MHz FM, 438.500 MHz (Brisbane only), and regional VHF/UHF repeaters at 0900 hrs EAST Sunday. Repeated on 3.605 MHz SSB & 147.000 MHz FM at 1930 hrs EAST Monday. Broadcast news in text form on packet under WIAQ@VKNET.	(F) $74.00 (G) (S) $60.00 (X) $46.00
VK5 South Australian Division 34 West Thebarton Rd Thebarton SA 5031 (GPO Box 1234 Adelaide SA 5001) Phone 08 8352 3428 Fax 08 8264 0463	President Assistant Secretary Treasurer Web: *http://www.vk5wia.ampr.org/*	Ian Hunt Graham Wiseman Joe Burford	VK5QX VK5EU VK5UJ	1827 kHz AM, 3.550 MHz LSB, 7.095 AM, 14.175 USB, 28.470 USB, 53.100 FM, 147.000 FM Adelaide, 146.700 FM Mid North, 146.800 FM Mildura, 146.825 FM Barossa Valley, 146.900 FM South East, 146.925 FM Central North, 147.825 FM Gawler, 438.425 FM Barossa Valley, 438.475 FM Adelaide North, ATV Ch 35 579.250 Adelaide. (NT) 3.555 USB, 7.065 USB, 10.125 USB, 146.700 FM, 0900 hrs Sunday. 3.585 MHz and 146.675 MHz FM Adelaide, 1930 hrs Monday.	(F) $75.00 (G) (S) $61.00 (X) $47.00
VK6 West Australian Division PO Box 10 West Perth WA 6872 Phone 08 9351 8873	President Secretary Treasurer Web: *http://www.faroc.com.au/~vk6wia/* e-mail: *vk6wia@faroc.com.au*	Cliff Bastin Christine Bastin Bruce Hedland-Thomas	VK6LZ VK6ZLZ VK6OO	146.700 FM(R), 438.525 FM(R), 29.120 FM at 0930 and 1900 hrs Sundays from Perth, relayed (morning only) on 1.825, 3.560, 3.582 (Busselton), 7.075, 14.116 (North), 14.175 (East), 21.185, 50.150; (morning and evening) 146.900(R) Mt William (Bunbury), 147.00(R) Katanning, 147.200(R) Cataby, 147.250(R) Mt Saddleback (Boddington), and 147.350(R) Busselton; (evening only) 1.865, 3.564 MHz.	(F) $62.00 (G) (S) $50.00 (X) $34.00
VK7 Tasmanian Division 24 Targett Street Scamander TAS 7250 Phone 03 6372 5305	President Secretary Treasurer Web: *http://www.wia.tasnet.net* e-mail: *vk7kpg@hamnet.hotnet.com.au*	Ron Churcher Paul Godden John Klop	VK7RN VK7KPG VK7KCC	146.700 MHz FM (VK7RHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.725 (VK7RNE), 146.625 (VK7RMD), 3.570, 7.090, 14.130, 52.100, 144.150 (Hobart), repeated Tues 3.590 at 1930 hrs.	(F) $74.00 (G) (S) $60.00 (X) $46.00

VK8 Northern Territory (part of the VK5 Division and relays broadcasts from VK5 as shown, received on 14 or 28 MHz).

Note: All times are local. All frequencies MHz.

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